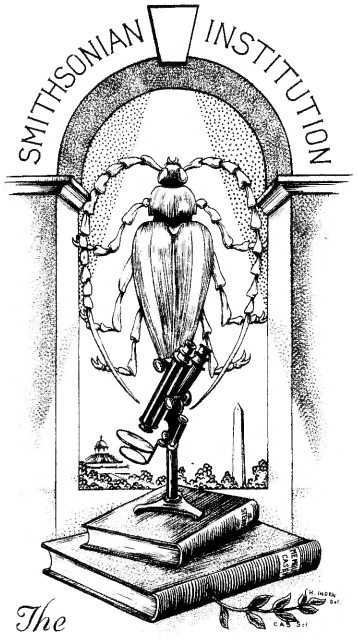

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BIOLOGIA CENTRALI-AMERICANA.

INSECTA.

COLEOPTERA. Vol. VI. Part 1.

PHYTOPHAGA (part).

BY

MARTIN JACOBY, F.E.S.

1880–1892.

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CONTENTS.

Page

INTRODUCTION v

LIST OF PLATES ix

ERRATA ET CORRIGENDA xx

SAGRIDÆ 1

CRIOCERIDÆ 2

MEGALOPODIDÆ 19

CLYTHRIDÆ { Clythrinæ 26
Megalostominæ 29
Babinæ 33

CRYPTOCEPHALIDÆ 38

CHLAMYDIDÆ 73

LAMPROSOMIDÆ 90

EUMOLPIDÆ 105

CHRYSOMELIDÆ 188

GALERUCIDÆ { Halticinæ 263
Galerucinæ 476

BIOLOGIA CENTRALI-AMERICANA.

ZOOLOGIA.

Class INSECTA.

Order COLEOPTERA.

Tribe PHYTOPHAGA.

(SUPPLEMENT TO VOL. VI. PART 1.)

SINCE the publication of this portion of the Phytophaga was commenced in June 1880 a great number of accessions have been added to the collections placed at my disposal for examination. These relate chiefly to the earlier groups, those referable to the later ones having been duly inserted in their places. The additions therefore in all the Families from the commencement to the Eumolpidæ are very numerous and will render this part of the Supplement much more extended than that relating to the large Families which follow. The collection of M. Sallé had not then been acquired; and Mr. Champion had only been working for a short time in Guatemala, and his explorations in the State of Panama had not been commenced. Most of the additions derived from Herr Höge's second Mexican expedition have also still to be dealt with. These and many smaller consignments received from time to time have all swelled the materials which I now propose to examine.

ORSODACNE. (To precede *Aulacoscelis*, p. 1.)

Orsodacna, Latreille, Hist. Nat. Crust. et Ins. iii. p. 223 (1802).
Orsodacne, Gemminger & Harold, Cat. xi. p. 3237.

The twelve or thirteen species placed in this genus chiefly inhabit Europe or North America; three, however, are known from Chili and one from Ceylon. One of the North-American species extends southwards to our northern boundary.

1. **Orsodacne childreni.**

Orsodacna childreni, Kirby, Faun. Bor.-Amer. iv. p. 221, t. 7. fig. 6[1].

Hab. NORTH AMERICA, Canada [1], United States.—MEXICO, Northern Sonora (*Morrison*).

It will perhaps be of interest to mention some of the genera which are either peculiar to Mexico or Central America, or have very many representatives there. This is all we can do at present, as we scarcely have as yet any knowledge of the life-history of any of the species. It is probable that the larvæ of these insects play some part in checking vegetation, as is the case with many species in the temperate zone, where they often seriously injure crops and cereals. Yet it is difficult to believe that the luxuriant tropical vegetation should be at all seriously affected by the ravages of the Phytophaga, while on the other hand a very considerable number of them probably fall victims to birds or other enemies. Be this as it may, there is no doubt that the Eumolpidæ, especially the metallic species, and the still more numerous Galerucidæ (*Diabrotica*, &c.) swarm in Central America, and are a feature amongst the Coleoptera of that region.

Amongst the Sagridæ, *Aulacoscelis* has 11 species, 2 only of which were known at the date of publication of Gemminger and Harold's Catalogue. Amongst the Eumolpidæ, the genus *Euphrytus*, characterized in this work for the first time, has 17 species, and *Promecosma* 19 species, all of which are peculiar to Mexico. It is, however, among the true Chrysomelidæ that we find genera numerously represented by species which are for the greater part peculiar to our region; these are *Calligrapha*, *Zygogramma*, *Leptinotarsa*, and others, for the most part containing neatly marked, closely allied species, distinguished by the peculiar pattern of the elytra and their system of punctuation—characters apparently depending on each other for their development. These genera have their head-quarters in Central America, North and South America each possessing comparatively few representatives. As regards the numerous new genera of Halticinæ and Galerucinæ described in this work, it is impossible to say anything at present about their geographical distribution, as it is highly probable that some of them extend beyond our limits.

Owing to the great variability of the Phytophaga, more particularly of the Galerucidæ, our immense amount of material has increased the difficulty of accurately defining the limits of particular species, instead of diminishing it as might have been expected. If the extreme varieties only of certain of them were available for examination, they would in most cases be considered as specifically distinct, the variation not only affecting colour, but, in some species, shape or sculpture also. So that, until the limits of variation are better understood, nothing can be done by the systematic worker but to treat as distinct such forms which in his opinion differ sufficiently from their allies.

Of the totally insufficient diagnoses, often of three or four lines, of various authors, it is not necessary to speak here.

The total number of 2166 species belong to 199 genera, and are apportioned thus:—

	Mexico and Central America.				Distribution of the genera beyond our limits.		
	Number of genera.	New genera described.	Number of species.	New species described.	America north of Mexico.	South America.	Old World.
Sagridæ	2	..	12	8	2	..	1
Donaciidæ	2	..	2	..	2	..	2
Crioceridæ	3	..	168	91	2	3	2
Megalopodidæ	3	..	42	17	..	3	..
Clythridæ	12	..	84	37	8	12	3
Cryptocephalidæ	5	..	181	103	4	5	3
Chlamydidæ	4	..	77	39	3	3	2
Lamprosomidæ	2	..	64	39	1	1	2
Eumolpidæ	39	5	299	205	12	29	6
Chrysomelidæ	13	..	219	66	7	13	3
Galerucidæ { Halticinæ	77	21	628	466	20	50	13
Galerucidæ { Galerucinæ	37	17	390	292	9	11	7
	199	43	2166	1363	70	130	44

From these figures it will be seen that nearly half the total number of species, and more than half of the genera, belong to the Galerucidæ. Of the 199 genera, 70 are represented in America north of Mexico, 130 in South America, and 44 in the Old World. The Eumolpidæ furnish 39 genera, 27 of which do not reach the United States. The 13 genera of Chrysomelidæ are all represented in South America, 7 in America north of Mexico, and but 3 only in the Old World. The Halticinæ belong to 77 genera, of which, so far as at present known, 22 are peculiar to Central America; 20 are represented in North, 50 in South America, and 13 in the Old World. The Galerucinæ, with 37 genera, have 18 peculiar to Central America; 9 are represented in North, 11 in South America, and 7 in the Old World. The genera containing the greatest number of species are:—*Diabrotica* 178 (116 new), *Lema* 129 (73 new), *Œdionychis* 75 (44 new), *Cryptocephalus* 72 (43 new), *Chlamys* 69 (37 new), *Lamprosoma* 62 (37 new), *Pachybrachys* 50 (28 new), *Lactica* 43 (35 new), *Systena* 38 (32 new), *Noda* 38 (30 new), *Disonycha* 36 (25 new), *Scolochrus* 33 (17 new), *Mastostethus* 31 (13 new), *Haltica* 31 (19 new), *Epitrix* 31 (21 new), and *Aphthona* 31 (27 new). Of 20 consecutive Halticid genera, *Allochroma* to *Hylodromus* inclusive, only one (*Hypolampsis*) reaches the United States. Of the 2166 species described or enumerated

in the following pages, about 90 only are known as yet to occur north of the Mexican boundary and about 150 in South America, thus leaving nearly 1930 species peculiar to our region. This number will of course be very greatly reduced when the northern part of South America is more thorougly explored, and a comparison can be made of the types of some of the Central-American species with those of North America. In Henshaw's "List of the Coleoptera of America north of Mexico" (1885), and its Supplement (1887), 553 species of the eleven families of Phytophaga dealt with here are enumerated, about one fourth of the total number of the Central-American forms. It will thus be seen that Central America has an exceedingly rich and peculiar Phytophagous fauna, the affinities of which are much greater with South America than with America north of Mexico.

My heartiest thanks are due to the Editors for their liberal assistance in furnishing me with all necessary material, books, &c. to complete this work, which has occupied a large part of my leisure time during the past twelve years.

M. J.

May 1892.

LIST OF PLATES.

[The pages marked "s" refer to the Supplementary Volume.]

	Plate.	Fig.	Page.
Aulacoscelis candezei	XXXV.	7	1, s 2
—— melanocephala	I.	1	2
—— tibialis	XXXV.	2	s 3
—— högei	XXXV.	6	s 3
—— variabilis	XXXV.	8	s 4
—— ——, var.	XXXV.	9	s 4
—— sanguinea	XXXV.	10	s 5
—— elongata, ♂	XXXV.	5	s 5
—— femorata, ♂	XXXV.	3	s 5
—— ——, ♀, var.	XXXV.	4	s 5
—— grandis, ♂	XXXV.	1	s 6
Donacia cincticornis	XXXV.	11	s 7
Hæmonia nigricornis	XXXV.	12	s 8
Lema bouchardi, var. problematica	I.	10	3
—— fulvo-fasciata	XXXV.	19	s 12
—— equestris	II.	8	3, s 12
—— elegantula	I.	4	3
—— dimidiaticornis	XXXV.	13	s 13
—— apicicornis	XXXV.	14	s 14
—— sexplagiata	XXXV.	15	s 15
—— transverso-fasciata	I.	11	4, s 15
—— nicaraguensis	I.	13	4
—— biornata	II.	1	5, s 16
—— opulenta *	I.	3	6, s 17
—— nigrolineata	XXXV.	25	s 18
—— maculigera	XXXV.	17	s 18
—— suffriani	I.	14	7
—— sexlineata	XXXV.	22	s 19
—— chiriquensis	XXXV.	18	s 20
—— forreri	XXXV.	16	s 21
—— championi	I.	5	7, s 22
—— clarki	XXXV.	21	s 23
—— bella	XXXV.	23	s 23
—— quinquenotata	II.	2	9
—— sexnotata	I.	8	9, s 26
—— nigromaculata	I.	7	9, s 27
—— godmani	II.	4	9, s 28

	Plate.	Fig.	Page.
Lema minuta	II.	3	10
—— antennalis	I.	6	10
—— scutaria	II.	6	10
—— insularis	XXXV.	20	s 30
—— incisa	XXXV.	24	s 30
—— högei	II.	5	11
—— dorsalis	I.	9	12, s 35
—— subapicalis	I.	12	12
—— bipustulata	II.	10	13
—— mexicana	II.	7	14, s 41
—— pustuligera	II.	9	14
Crioceris intermedia	I.	16	16, s 47
—— flohri	XXXVI.	1	s 47
—— sallæi	I.	15	17, s 47
—— scabrosa	I.	17	17, s 48
—— rugipennis	XXXVI.	2	s 48
—— rugicollis	XXXVI.	3	s 48
Megascelis purpureicollis	I.	2	18, 52
—— mexicana	XXXVI.	4	s 53
Mastostethus fraternus †	II.	11	20
—— salvini	I.	18	21
—— ——, var.	XXXVI.	5	s 58
—— cordovensis	XXXVI.	7	s 58
—— gracilentus	XXXVI.	6	s 59
—— sexplagiatus	I.	24	21
—— rubricollis	I.	20	21, s 59
—— championi ‡	II.	12	21, s 60
—— rogersi	I.	23	22, s 60
—— chontalensis	I.	21	22, s 60
—— femoratus	XXXVI.	8	s 60
—— 9-maculatus	I.	19	23, s 61
—— placidus	I.	22	23
—— nigrofasciatus	I.	25	24
—— modestus	XXXVI.	13	s 61
—— panamensis	XXXVI.	9	s 61
—— ——, var.	XXXVI.	10	s 61
—— imitans	XXXVI.	11	s 62

* *Lema ornata* on the Plate.

† *Mastotethus fraternus* on the Plate.

‡ *Mastotethus championi* on the Plate.

	Plate.	Fig.	Page.
Mastostethus humero-notatus ..	XXXVI.	12	s 62
—— 8-maculatus	XXXVI.	14	s 63
Megalopus violaceo-fasciatus	XXXVI.	15	s 64
Titubœa sanguinipennis *, ♂ ..	II.	16	27, s 65
—— ——, ♀	II.	17	27, s 65
—— brevilineata, ♂	XXXVI.	18	s 66
—— högei, ♂	XXXVI.	16	s 66
—— villosa, ♂	XXXVI.	17	s 67
Gynandrophthalma agilis	II.	22	28, s 68
—— aviculus	II.	18	29, s 68
Megalostomis splendida	II.	15	30
—— metallica	XXXVI.	19	s 69
—— dimidiata, var.	II.	14	30, s 71
—— femorata	XXXVI.	20	s 71
—— flavipennis	II.	13	31, s 72
—— punctatissima	XXXVI.	22	s 72
—— fulvipes	XXXVI.	21	s 72
—— anachoreta.....	XXXVI.	23	s 73
—— amazona	XXXVI.	24	s 73
Coscinoptera purpurea	XXXVI.	25	s 74
Euryscopa pilatei	II.	20	32, s 75
—— nigritarsis	XXXVII.	1	s 76
—— mexicana	XXXVII.	2	s 76
—— villosa	XXXVII.	3	s 77
—— semistriata	XXXVII.	4	s 78
—— longicollis	XXXVII.	5	s 78
—— regularis	XXXVII.	6	s 79
—— parvula	XXXVII.	7	s 79
Proctophana fulvicollis	XXXVII.	8	s 81
Dachrys bipartita	II.	19	33, s 81
Babia chiriquensis	XXXVII.	9	s 84
Saxinis sonorensis	XXXVII.	10	s 88
—— högei	XXXVII.	11	s 90
—— guatemalensis	II.	21	36
Monachus guatemalensis	III.	1	38, s 91
—— bimaculatus	III.	2	39, s 92
—— 4-plagiatus	XXXVII.	12	s 98
—— flavipennis.....	XXXVII.	13	s 98
Cryptocephalus semimarginatus..	III.	3	43, s 100
—— difficilis, ♀	XXXVII.	14	s 101
—— nigrovittatus.....	III.	16	44
—— 4-vittatus	IV.	1	44
—— patheticus	III.	17	45, s 104
—— porosus	III.	4	46, s 106
—— 18-punctatus	III.	6	46, s 106
—— quaternarius	III.	15	47, s 106
—— forreri	XXXVII.	15	s 106
—— atrofasciatus	IV.	2	48
—— subcurvatus	XXXVII.	16	s 107
—— irroratus	III.	9	49, s 108
—— trizonatus	III.	8	49, s 108
—— guatemalensis	III.	10	49, s 109
—— complicatus	XXXVII.	17	s 109

	Plate.	Fig.	Page.
Cryptocephalus stigmatipennis ..	III.	14	50
—— 14-pustulatus †.....	III.	7	51, s 110
—— championi	III.	13	51
—— 10-plagiatus	XXXVII.	18	s 111
—— militaris.....	III.	5	53, s 112
—— basalis	IV.	4	53, s 112
—— ——, var. cruentatus	IV.	6	53, s 112
—— salvini	IV.	3	54
—— obscuripennis	III.	11	54
—— lævipennis.....	III.	18	55, s 113
—— inconspicuus	III.	12	56, s 113
—— zapotensis	IV.	5	56, s 114
—— juquilensis.....	XXXVIII.	1	s 116
—— 7-punctatus	XXXVIII.	2	s 116
—— dolorosus	XXXVII.	19	s 118
—— flavofasciatus	XXXVII.	20	s 118
—— ——, var.....	XXXVII.	21	s 118
—— flavomaculatus	XXXVIII.	3	s 119
—— multipunctatus	XXXVII.	22	s 119
—— 11-plagiatus	XXXVII.	23	s 120
—— problematicus	XXXVII.	24	s 121
—— admirabilis	XXXVII.	25	s 121
Stegnocephala costata	XXXVIII.	4	s 123
—— longicornis.....	XXXVIII.	5	s 123
Scolochrus purpurascens	III.	21	58, s 124
—— pallipes	XXXVIII.	6	s 125
—— ——, var.....	XXXVIII.	7	s 125
—— montezuma	III.	19	59
—— cazicus ‡	III.	24	60
—— suffriani.....	IV.	7	60, s 126
—— errans	III.	25	61
—— decoratus	III.	23	61, s 126
—— personatus	III.	20	61
—— ——, var.....	III.	22	61
—— panamensis	XXXVIII.	8	s 126
—— sulcipennis	IV.	9	63, s 127
—— boucardi	IV.	8	63
—— maculicollis	XXXVIII.	9	s 127
—— 5-maculatus	XXXVIII.	10	s 128
—— yucatanus	XXXVIII.	11	s 128
—— 12-guttatus	XXXVIII.	12	s 129
—— 17-guttatus	XXXVIII.	13	s 129
—— robustus	XXXVIII.	14	s 130
—— imitans	XXXVIII.	15	s 131
—— minutus	XXXVIII.	16	s 131
—— cordovensis	XXXVIII.	17	s 132
—— gamma.....	XXXVIII.	18	s 132
—— fallax.....	XXXVIII.	19	s 133
—— modestus	XXXVIII.	20	s 133
—— geometricus	XXXVIII.	21	s 134
—— 4-maculatus	XXXVIII.	22	s 135
Pachybrachys thoracicus	XXXVIII.	23	s 136
—— semibrunneus	XXXIX.	1	s 137

* *Anomœa sanguinipennis* on the Plate.

† *Cryptocephalus tesseratus* on the Plate.

‡ *Scolochrus cacicus* on the Plate.

	Plate.	Fig.	Page.
Pachybrachys hæmatodes	IV.	11	64
—— rubronotatus	IV.	18	65, s 137
—— rubro-ornatus	IV.	19	65
—— minutus	XXXIX.	2	s 138
—— inclusus	XXXIX.	3	s 139
—— irregularis	IV.	12	67, s 140
—— forreri	XXXVIII.	24	s 141
—— durangoensis	XXXVIII.	25	s 141
—— maculicollis	XXXIX.	4	s 142
—— punctatissimus	IV.	20	68, s 143
—— umbraculatus	IV.	14	69, s 143
—— flavescens	XXXIX.	5	s 143
—— gregarius	IV.	13	69
—— regularis	IV.	15	69
—— brunneo-maculatus	XXXIX.	6	s 144
—— juquilensis	XXXIX.	7	s 145
—— sallæi	XXXIX.	8	s 145
—— mexicanus	XXXIX.	9	s 147
—— marmoratus, ♀	XXXIX.	10	s 148
—— bifasciatus	IV.	17	71, s 148
—— laticollis	IV.	16	72, s 149
—— reticulatus	IV.	10	73, s 344
—— livens?	XXXIX.	11	s 151
—— longicollis	XXXIX.	12	s 152
—— nigrofasciatus	XXXIX.	13	s 153
—— decoratus	XXXIX.	14	s 154
Diaspis paradoxa	V.	2	74
Chlamys amœna	V.	4	76
—— godmani	XXXIX.	16	s 155
—— pavonina	II.	23	76, s 156
—— militaris	XXXIX.	17	s 156
—— sextuberculata	II.	24	76
—— sallæi	IV.	23	77
—— episcopalis	V.	3	77, s 157
—— maculipes	V.	10	78, s 157
—— semilutea	XXXIX.	15	s 157
—— insularis	V.	12	78, s 158
—— ——, var.	XXXIX.	19	s 158
—— frontalis	V.	12*a*	79, s 158
—— fulvomaculata	XL.	1	s 158
—— collaris	XXXIX.	20	s 159
—— högei	XXXIX.	18	s 159
—— instabilis	XL.	2	s 161
—— sublævicollis	XL.	3	s 161
—— scabrosa	XL.	4	s 162
—— punctipennis	XXXIX.	22	s 163
—— tragulus	IV.	22	80
—— pilatei	V.	8	81, s 163
—— strigicollis	XXXIX.	21	s 164
—— luteola, var.	V.	13	81
—— insignis	XXXIX.	25	s 165
—— prodigiosa	XL.	5	s 165
—— nitidiceps	XL.	6	s 166

	Plate.	Fig.	Page.
Chlamys stigmula	II.	25	82
—— ferrugata	V.	5	82
—— fulvicollis	V.	6	83
—— stictica	V.	1	83, s 166
—— bugabensis	XXXIX.	24	s 167
—— semifulva	XL.	7	s 167
—— hypocrita	IV.	21	84
—— insidiosa	XL.	8	85, s 168
—— kraatzi	V.	11	86
—— bipunctata	IV.	24	86
—— maculicollis	V.	9	87
—— venusta *	V.	7	85, 88, s 169
—— pardalis	IV.	25	88
—— admirabilis	XXXIX.	23	s 169
—— biplagiata	XL.	9	s 169
—— multifasciata	XL.	10	s 170
—— angulicollis	XL.	11	s 171
Lamprosoma sallæi	V.	14	91, s 173
—— hypochryseum	V.	17	92, s 174
—— chapuisi	V.	21	92, s 174
—— chlorizans	V.	20	93
—— insigne	V.	18	94, s 174
—— opulentum	V.	23	94, s 174
—— refulgens	V.	22	95, s 175
—— bifasciatum	V.	19	95, s 176
—— splendidum	V.	16	100
—— juvencum †	V.	24	101, s 177
—— balyi	V.	15	102
Chrysodina ignita	VI.	1	106
—— corrusca	VI.	2	107
—— pubescens	VI.	7	108, s 184
—— cupriceps	VI.	3	109, s 185
—— ——, var.	VI.	4	109
Phædra maxima	VI.	5	112, s 189
—— dives	VI.	6	112
Noda cretifera	VI.	10	114, s 193
—— opaca	VI.	8	116
—— atra	VI.	11	119
—— curtula	VI.	9	120, s 197
Spintherophyta cephalotes, ♂	VII.	1	122
—— ——, ♀	VII.	2	122
Ischyrolampra panamensis, ♂	XL.	12	s 204
Agbalus violaceus ‡	IX.	3	154, s 206
Euphrytus æneus	VII.	25	125, s 207
—— opacicollis	VIII.	18	125
—— varipennis §	VIII.	19	126, s 208
—— pallidus	XL.	13	s 209
—— elongatus	XL.	14	s 210
—— humeralis	XL.	15	s 210
—— apicicornis	XL.	16	s 211
—— (?) rugosus	XL.	17	s 212
Pseudochoris fulvicollis	XL.	18	s 213
Ephyræa isthmica	XL.	19	s 214

* *Chlamys fasciaticollis* on the Plate.

† *Lamprosoma pediculus* on the Plate.

‡ *Corysthea violacea* on the Plate.

§ *Euphrytus fulvicollis* on the Plate.

	Plate.	Fig.	Page.
Coytiera fulvipes	VIII.	15	126, s 215
——— ———, var.*	VII.	3	154, s 215
——— rugipennis	VIII.	16	127
Choris pubicollis	XL.	20	s 216
Clisithera cerasina	XL.	21	s 216
Beltia nicaraguensis	VIII.	25	128
Talurus salvini †	IX.	2	148, s 217
——— rugosus ‡	VII.	8	150, s 217
Metaxyonycha tridentata	VI.	12	129
——— hirsuta, ♂	XL.	22	s 217
——— panamensis, ♂	XL.	23	s 218
——— godmani	VI.	13	130
Prionodera amasia §	VI.	14	130
——— salvini	VIII.	20	131, s 218
——— hirtipennis	VIII.	21	131
——— limbata	XL.	24	s 219
Promecosoma abdominale	VIII.	1, 2	132
——— dispar	VIII.	3	132
——— flohri	XL.	25	s 219
——— scutellare	VIII.	4	132
——— nobilitatum	VIII.	5	132, s 219
——— cinctipenne	VIII.	6	133
——— sallæi	VIII.	7	133
——— dugesi	VIII.	8	133
——— inflatum	VIII.	9	134, s 220
——— dilatatum	VIII.	10	134
——— fervidum	VIII.	11	134
——— lepidum	VIII.	13	134
——— lugens	VIII.	12	135
——— viride	VIII.	14	135, s 220
Colaspis splendida	VI.	17	136
——— gemmingeri	VI.	15	137
——— hypochlora	VI.	18	138, s 220
——— prasina	VI.	16	138, s 220
——— ———, var.	VI.	20	138
——— submetallica	VII.	7	140, s 221
——— belti	VI.	21	141
——— suturalis	VI.	19	143
——— impressa	VIII.	23	145, s 222
——— ———, var. ‖	VII.	6	144, s 222
Aletes mexicanus	VII.	5	146
——— variabilis	IX.	1	147
Rhabdophorus mexicanus	VIII.	24	148
——— guatemalensis	VIII.	22	150
Chalcophana cincta	VII.	9	155, s 228
——— mutabilis	VI.	22, 23, 24	157
——— godmani	VII.	10	160
——— discolor	VI.	25	163
——— rufipennis	VIII.	17	163

	Plate.	Fig.	Page.
Xanthonia guatemalensis	VII.	20	164
——— marmorata	IX.	5	165, s 231
——— tuberosa	IX.	4	166
Fidia pedestris	VII.	12	166
——— spuria	VII.	11	166
——— humeralis	VII.	13	167
——— plagiata	VII.	14, 15	167
——— albovittata	VII.	16	167, s 232
——— sallæi	VII.	17	167
——— guatemalensis	IX.	6	167
Metachroma variabile	IX.	7	170, s 233
——— mexicanum	IX.	11	171, s 234
Eumolpus surinamensis	IX.	14, 16	172, s 235
——— speciosus	IX.	15	173
Tymnes verticalis	IX.	19	174
Myochrous sallæi	VII.	19	174
——— melancholicus	VII.	18	174, s 236
——— tibialis	IX.	8	175
Glyptoscelis albicans	VII.	4	177
Typophorus humeralis	VII.	22, 23	178
——— viridicyaneus ¶	VII.	21	179
——— mexicanus	VII.	24	180, s 237
Paria vitticollis	IX.	9	183
——— ———, var.	IX.	10	183
——— nigritarsus	IX.	12	184, s 238
——— lævipennis	IX.	13	184
Colaspoides batesi	IX.	17	186
——— unicolor	IX.	18	186
Phædon cyanescens	IX.	21	188
——— cyanopterus	X.	4	189
——— mexicanus	IX.	20	189
Plagiodera punctigera	IX.	22	190
——— semivittata	IX.	23	190
——— maculatella	IX.	25	190
——— congesta	IX.	24	191
——— flosculosa **	X.	1	193
——— bis-tripunctata	XLI.	1	s 242
——— viridimaculata	XLI.	2	s 242
Lina scripta	X.	2	194, s 244
——— depressa	X.	3	194, s 244
Calligrapha æneopicta	X.	12	195
——— diversa	X.	15	196, s 244
——— geographica	X.	18	196
——— consputa	X.	17	196
——— scalaris	XI.	6	197
——— multipustulata	X.	16	197, s 244
——— ancoralis	X.	20	197
——— 9-maculata	XI.	20	198

* *Corysthea högei* on the Plate.

† *Rhabdophorus salvini* on the Plate.

‡ *Rhabdophora rugosa* on the Plate.

§ *Metaxyonycha amasia* on the Plate.

‖ *Colaspis laticollis* on the Plate.

¶ *Typophorus sturmi* on the Plate.

** *Plagiodera æneiventris* on the Plate.

	Plate.	Fig.	Page.
Calligrapha notatipennis	X.	25	198, s 244
—— labyrinthica	XI.	1,2,3	199, s 244
—— suffriani	XI.	16	199, s 244
—— suboculata	X.	13, 14	200, s 245
—— ——, var.	X.	23	200
—— fulvitarsis	XLI.	3	s 245
—— intermedia	XI.	19	200
—— pnirsa	XI.	18	201
—— ramulifera	XI.	4	201, s 245
—— argus *	X.	19	201, s 246
—— tortilis	X.	21	202, s 246
—— eupatris	X.	22	202
—— serpentina	X.	11	203, s 246
—— 20-maculata	XI.	11	203, s 246
—— stillatipennis	XI.	14	203
—— ——, var.	XI.	15	203
—— multiguttata	X.	5	204, s 246
—— ——, var.	X.	6	204
—— barda	XI.	12	204, s 246
—— ——, var.	XI.	13	204
—— fulvipes	X.	8	205, s 246
—— pantherina	X.	9	205
—— felina	X.	10	206, s 246
—— billbergi	X.	7	206
—— limbaticollis	XI.	8	206
—— ——, var.	XI.	9	206
—— gyllenhali	XI.	10	206
—— euplecta	XI.	5	207
—— sylvia	XI.	7	207
—— matronalis	XI.	17	207
—— violaceo-maculata	XIV.	22	208, s 247
—— elegantula †	XIV.	18	208
—— femorata	XLI.	4	s 247
—— marginipennis	XLI.	5	s 247
Zygogramma nicaraguensis	XI.	21	209
—— quenseli ‡	X.	24	210
—— piceicollis	XI.	23, 24, 25	210, s 248
—— signatipennis §	XIV.	24	210
—— malvæ	XII.	2	211, s 248
—— dulcis	XII.	1	211
—— mexicana	XII.	7	212
—— lemur	XII.	8, 9	212, s 248
—— opifera	XII.	10, 11	213, s 248
—— bigenera	XI.	22	213, s 248
—— popa	XII.	13	214
—— guttulosa	XII.	12	214
—— lentiginosa	XII.	14, 15	214

	Plate.	Fig.	Page.
Zygogramma 5-virgata	XII.	21	215
—— æneo-vittata	XII.	3	215
—— lepidula	XII.	16	216, s 249
—— morbillosa	XII.	17	216, s 249
—— clathrata	XII.	18	217
—— ——, var.	XII.	19	217
—— ståli	XII.	4	217
—— championi	XII.	6	218
—— ornata	XII.	22	218
—— ——, var.	XII.	23	218
—— hypocrita	XII.	20	219
—— 9-virgata	XII.	5	220
—— fasciatipennis	XLI.	6	s 249
—— obscuro-fasciata	XLI.	7	s 250
—— durangoensis	XLI.	8	s 250
—— maculicollis	XLI.	9	s 250
—— militaris	XLI.	10	s 251
—— 10-pustulata	XLI.	11	s 251
—— thoracica	XLI.	12	s 252
Stilodes atromaculata	XIII.	8	222
—— cœlebs	XII.	25	223, s 252
—— nigromarginata	XIII.	1	223
—— nigricollis	XIII.	2	224
—— neptis	XII.	24	224
—— motschulskyi	XIII.	4	224
—— leoparda	XIII.	6	225
—— ståli	XIII.	5	225
—— fuscolineata	XIII.	3	226
—— pallidipennis	XIII.	7	226
—— quadristriata	XLI.	13	s 252
Leptinotarsa cacica	XIV.	23	227
—— chalcospila	XIII.	9	227, s 252
—— lacerata	XIII.	10	228
—— heydeni	XIII.	11	228, s 253
—— puncticollis	XIII.	12	228
—— zetterstedti	XIII.	19	229
—— behrensi ‖	XIII.	13	229, s 253
—— dilecta	XIII.	16	230
—— flavitarsis	XIV.	12	231, s 253
—— lineolata	XLI.	14	s 253
—— calceata	XIII.	14	231
—— obliterata	XIII.	15	232
—— pudica	XIII.	25	232
—— signaticollis	XIII.	20	232, s 253
—— 10-lineata	XIII.	24	233, s 253
—— angustovittata	XLI.	15	s 254
—— defecta	XIII.	21	234
—— melanothorax	XIII.	22	234, s 254
—— dahlbomi	XIII.	23	235
—— ståli	XV.	1	237
—— flavopustulata	XIII.	17	238
—— belti	XIII.	18	238

* *Calligrapha famularis* on the Plate.

† *Calligrapha elegans* on the Plate.

‡ *Calligrapha quenseli* on the Plate.

§ *Calligrapha signatipennis* on the Plate.

‖ *Leptinotarsa modesta* on the Plate.

	Plate.	Fig.	Page.
Leptinotarsa evanescens	XV.	2	238
—— distinguenda *	XIV.	25	238
—— dohrni	XV.	4	239
—— högei	XV.	3	240
—— typographica	XLI.	16	s 254
Labidomera suturella †	XV.	5, 6	240, s 255
Doryphora paykulli	XIV.	16	243
—— petulans	XIV.	15	243
—— panamensis	XV.	11	244
—— insignicornis	XIV.	17	245
—— semiambita	XV.	7	245, s 255
—— purulensis	XV.	8	246
—— bicolor	XIV.	5	246
—— bella	XV.	9	247
—— lativittis	XV.	10	247
—— mirabilis	XV.	14	248
—— marginalis	XV.	15	248
—— spectanda	XIV.	7	249
—— 10-stillata	XIV.	21	249
—— diagonalis	XV.	13	250
—— æneo-ornata	XV.	12	250
—— decorata	XIV.	11	250, s 255
—— ornata	XIV.	9	250
—— ocellata	XIV.	4	251
—— ——, var. ‡	XV.	19	251
—— impar	XIV.	10	251
—— chontalensis	XV.	17	252
—— stabilis	XLI.	17	s 256
—— rogersi §	XIV.	20	254
—— sallæi	XIV.	14	255
—— salvini	XIV.	6	255
—— boucardi	XV.	20	256
—— opposita	XV.	21	256
—— flavoguttata	XIV.	2	257
—— bisbimaculata	XIV.	8	257
—— antennalis	XV.	18	258
—— dorsomaculata	XIV.	1	258
—— punctipennis	XIV.	3	258
—— viridifasciata	XV.	16	258
—— ligata	XIV.	13	259
—— spectabilis	XIV.	19	259
Elytrosphæra 4-maculata	XV.	22	260
—— mexicana	XV.	23	261
—— annulata	XV.	24	262
—— tibialis ‖	XV.	25	241, s 255, 256
—— marginicollis	XLI.	18	s 256
—— bifasciata	XLI.	19	s 257
—— erratica	XLI.	20	s 257
Diphaulaca chiriquensis	XVI.	1	266
—— jucunda	XVI.	2	269
Hoplacerus tibialis	XLIII.	21	s 344
Piasus fulvus, ♀	XLIII.	25	s 345
Lactica bifasciata	XVI.	3	270
—— nigromaculata	XVI.	12	270
—— variabilis	XVI.	17, 18	271
—— chevrolati	XVI.	16	271
—— chiriquensis	XVI.	14	272
—— uniformis	XVI.	5	272
—— scutellaris	XVI.	6	273, s 259
—— subcostata	XVI.	13	273
—— minuta	XVI.	15	274, s 259
—— mexicana	XVI.	7	274
—— högei	XVI.	8	275
—— perplexa	XVI.	21	276
—— antennalis	XVI.	11	277
—— panamensis	XVI.	4	277
—— æneipennis	XVI.	20	277
—— violacea	XVI.	23	278
—— viridipennis	XVI.	9	279
—— abdominalis	XVI.	10	279
—— cupreata	XVII.	2	281, s 259
—— godmani	XVII.	1	281
—— chontalensis	XVI.	22	282
—— ornata	XVI.	19	282
—— binotata	XVII.	3	282
—— germari	XVII.	9	283
—— 4-notata	XLI.	21	s 260
—— vittatipennis	XLIII.	22	s 345
—— varicornis	XLIII.	24	s 346
Hermæophaga parvula ¶	XVII.	16	299, s 261
—— minuta **	XVII.	17	299, s 261
Plectrotetra clarki, ♂	XVI.	24	284
—— ——, ♀	XVI.	25	284
—— submetallica	XVII.	5	285
—— regularis	XVII.	6	285
—— proxima	XVII.	4	286, s 264
—— monstrosa	XVII.	8	286
—— chiriquensis	XVII.	7	287
—— nigripennis	XLI.	22	s 264
Phrynocepha pulchella	XVII.	24	291
—— elongata, ♂	XVIII.	1	292
—— ——, ♀	XVIII.	2	292
—— lævicollis	XVIII.	3	293
Hemiphrynus tenuicornis, ♂	XLI.	23	s 265
—— sulcatipennis	XLI.	24	s 266
Haltica patruelis	XVII.	11	294
—— jamaicensis	XVII.	15	295
—— amethystina	XVII.	12	295
—— mexicana	XVII.	13	296
—— brevis	XVII.	19	298

* *Calligrapha distinguenda* on the Plate.

† *Labidomera germari* on the Plate.

‡ *Doryphora transversoplagiatus* on the Plate.

§ *Doryphora* 12-*guttata* on the Plate.

‖ *Prosicela tibialis* on the Plate.

¶ *Haltica parvula* on the Plate.

** *Haltica minuta* on the Plate.

	Plate.	Fig.	Page.
Haltica complicata	XVII.	10	300
—— longicornis, ♂	XLI.	25	s 270
Syphrea pretiosa	XVII.	23	302, s 272
Exoceras facialis	XLII.	1	s 273
Cacoscelis compta	XVII.	18	302
—— sallæi	XVII.	14	303
—— 5-lineata	XVIII.	5	303
—— flava	XVIII.	4	303
—— scriptipennis	XVIII.	6	304, s 273
—— varians, var.*	XVII.	22	s 273, 346
Disonycha nigripes	XVIII.	7	305
—— melanocephala	XVIII.	10	306
—— nigripennis	XVIII.	9	306
—— mexicana	XVIII.	8	306
—— subænea	XVIII.	13	307
—— apicalis	XVIII.	16	307
—— dorsata	XVIII.	11	308
—— sallæi	XVIII.	12	308
—— pallidicornis	XVIII.	17	308
—— trifasciata	XVIII.	14	309
—— ——, var.	XVIII.	15	309
—— angulata	XLII.	2	s 275
—— dimidiata	XVIII.	21	309
—— austriaca	XVIII.	18	310
—— 6-maculata	XVIII.	19	310
—— cordovana	XVIII.	20	310
—— recticollis	XVIII.	25	313
—— panamensis	XIX.	1	313
—— militaris	XIX.	5	314
—— figurata	XVIII.	24	314
—— högei	XIX.	2	315
—— antennata	XIX.	4	315
—— crenicollis	XVIII.	22	316
—— brevilineata	XVIII.	23	317
—— abbreviata	XIX.	3	317
Orodes nigropictus	XLII.	3	s 277
Nephrica inornata	XLII.	4	s 277
Cæporis subcostata	XIX.	10	318
Acanthonycha elegantula†	XVII.	25	318, s 278
—— ——	XIX.	7	318, s 278
Pelonia clarki	XIX.	9	319
—— balyi	XIX.	8	319
—— seminigra	XIX.	6	320
Aphanocera fulveola	XIX.	11	320
Megasus bimaculatus	XIX.	12	321
Calliphron ferrugineum, ♂	XLII.	5	s 278
Prasona viridis	XIX.	13	322
Iphitroides 4-maculata	XLII.	6	s 279
—— 4-punctata	XLII.	7	s 280
—— nigrocincta	XLII.	8	s 280
Systena marginata‡	XVII.	21	322
—— mexicana§	XVII.	20	323
Systena oberthüri	XIX.	15	323
—— variabilis	XIX.	16–21	323
—— nigroplagiata	XIX.	23, 24	324, s 281
—— contigua	XIX.	25	325
—— undulata	XIX.	22	325, s281
—— apicicornis	XX.	1	325
—— posticata	XX.	2	326
—— championi	XX.	11	326
—— dilatipennis	XX.	12	327
—— tæniata, var. discicollis	XX.	5	331, s 281
—— ——, var. semivittata	XX.	9	335, s 281
—— ——, var. capitata	XX.	6	336, s 281
—— chloropus	XIX.	14	328, s 281
—— ustulata	XX.	17, 18	328
—— metallica	XX.	13	328
—— viridipennis	XX.	3	329
—— regularis	XX.	14	329
—— coxalis	XX.	19	330
—— longicornis	XX.	16	330
—— brunneovittata	XX.	15	332
—— thoracica	XX.	4	333
—— bohemani	XX.	7	334
—— salvini	XX.	8	335
—— laticollis	XX.	10	336
Clamophora nigritarsis	XX.	21	339
Sangaria haagi	XX.	20	340
Pseudoepitrix hirtipennis	XX.	22	341
—— vittatipennis	XX.	23	342
Crepidodera chiriquensis	XX.	25	342
—— amplicollis	XLII.	9	s 283
Orthygia unifasciata	XLII.	10	s 286
Suetes niger, ♂	XLII.	11	s 286
Mesodera fulvicollis	XX.	24	345
Epitrix violacea	XXI.	1	346
—— thoracica	XXI.	2	347
—— intermedia	XXI.	3	351
—— dilaticornis	XXI.	4	352
—— subcostata	XXI.	5	353
—— parvula	XXI.	6	355, s 289
Trichaltica bogotana	XXI.	7	356
—— variabilis	XXI.	9	356
Crimissa cruralis	XXI.	8	357
Dibolia ovalis‖	XXI.	10	358, s 290
Pseudodibolia picea	XLII.	20	s 291
Lupræa fulvicollis	XXI.	11	359, s 292
Aphthona diversa	XXI.	20	361
—— obscuripennis	XXI.	19	362
—— semipunctata	XXI.	22	363, s 293
—— pallipes	XXI.	18	364, s 293

* *Prasona nigripennis* on the Plate.

† *Pelonia elegantula* on the Plate.

‡ *Prasona marginata* on the Plate.

§ *Prasona mexicana* on the Plate.

‖ *Dibolia borealis* on the Plate.

	Plate.	Fig.	Page.
Aphthona mexicana	XXI.	21	366, s 294
—— fulvipennis	XXI.	24	366
—— chiriquensis	XXI.	25	367
—— aterrima	XXI.	23	367
Phyllotreta guatemalensis	XXI.	14	369
—— abdominalis	XXI.	12	370
—— nigricollis	XXI.	15	370
—— submetallica	XXI.	16	371
—— mexicana	XXI.	13	371, s 297
—— crotchi	XXI.	17	372, s 297
Palæothona rugifrons	XXII.	6	377
—— longicornis	XXII.	7	378
Chrysogramma 8-maculata	XXII.	8	380
—— trifasciata	XLII.	12	s 304
—— (?) 7-punctata	XLII.	13	s 304
—— (?) omiltemia	XLII.	14	s 304
—— pictipennis	XLII.	15	s 305
Acrocyum dorsalis	XXII.	23	381
—— sallæi	XXII.	25	381
—— maculicollis	XXII.	24	382
Notozona histrionica	XXII.	9	383
—— semifasciata	XXII.	10	383
Blepharida suturalis	XXII.	12	385
—— reticulata	XXII.	11	385
—— mexicana	XXII.	16	386
—— trifasciata	XXII.	14	386
—— marmorata	XXII.	13	387
—— punctatissima	XXII.	17	387
—— godmani	XXII.	18	387
—— maculicollis	XXII.	19	388
—— 14-punctata	XXII.	15	388
—— unicolor	XXII.	21	389
—— flohri	XXII.	20	389
—— alternata	XLII.	18	s 306
—— singularis	XLIII.	23	s 347
Pseudogona chiriquensis	XXII.	22	391
Cyrsylus recticollis	XLII.	16	s 306
—— crassicornis, ♂	XLII.	17	s 307
—— vittatus	XLII.	19	s 308
Homophyla variabilis*	XXII.	1, 2	392, s 308
—— brevicornis†	XXII.	3	393, s 308
—— pallida	XLII.	21	s 310
Sphæroderma cæruleum	XLII.	22	s 310
Phydanis nigriventris	XLII.	23	s 310
Chætocnema transversicollis	XXII.	4	396
—— capitata	XXII.	5	396
Asphæra transversofasciata	XXIII.	7	399
—— cyanopis	XXIII.	9	401
—— semifulva	XXIII.	20	402
—— pallida	XXIII.	8	404
Homophœta variabilis	XXIII.	2	405
—— recticollis	XXIII.	3	405, s 315
—— championi	XXIII.	4	406
Homophœta affinis	XXIII.	5	406
—— albofasciata	XXIII.	1	406
—— cinctipennis	XXIII.	6	407
—— simulans	XLII.	24, 25	s 316
Œdionychis reichei	XXIII.	11	408, s 316
—— icteridera	XXIII.	12	409
—— acutangula	XXIV.	2	409, s 317
—— frontalis	XXIII.	14	410, s 317
—— dugesi	XXIV.	12	411
—— purulensis	XXIV.	3	411
—— antennalis	XXIV.	4	413
—— limbatipennis	XXIV.	1	413
—— 4-lineata	XXIV.	13	414
—— chevrolati	XXIV.	15	414
—— ornata	XXIV.	16	415
—— infirma	XXIII.	10	417
—— longicollis	XXIV.	20	417
—— sublineata	XXIV.	7	418
—— oculata?	XXIV.	6	418
—— seriata	XXIV.	10	419
—— discoidea	XXIV.	11	419
—— interjectionis‡	XXIV.	14	420, s 318
—— godmani	XXIII.	23	421
—— illigeri	XXIII.	21	421
—— exquisita	XXIV.	5	423
—— 10-guttata, varr.	XXIII.	15, 18, 22	423
—— 12-maculata	XXIII.	16	424
—— panamensis	XXIII.	17	425
—— salvini	XXIII.	24	426
—— ——, var.	XXIII.	25	426
—— transversalis	XXIV.	17	426
—— tenuicincta	XXIV.	22	426
—— championi	XXIV.	18	427
—— inscripta	XXIV.	21	427
—— biarcuata	XXIII.	13	428
—— proxima	XXIV.	19	428
—— maculata	XXIV.	9	430
—— conspurcata	XXIV.	8	431
—— jansoni	XXIV.	24	432
—— quærula	XXIII.	19	432
—— hondurensis	XXIV.	25	433
—— violaceomarginata	XXIV.	23	433
—— pavonina	XLIII.	1	s 319
Allochroma 6-maculatum	XXV.	1,2,3	436
—— fasciatum	XXV.	4	437
—— festivum	XXV.	7	437
—— balyi	XXV.	5	438
—— bimaculatum	XXV.	6	438
—— 6-signatum	XXV.	9	439
—— chiriquense	XXV.	10	439

* *Euplectroscelis variabilis* on the Plate.

† *Euplectroscelis brevicornis* on the Plate.

‡ *Œdionychis gracilis* on the Plate.

	Plate.	Fig.	Page.
Allochroma godmani	XXV.	12	439
—— ——, var.	XXV.	13	439
—— coccineum	XXV.	14	440
—— mexicanum	XXV.	8	440
—— biplagiatum	XXV.	16	440
—— flavonotatum	XXV.	15	441
—— posticatum	XXV.	11	441
—— castaneum	XXV.	17	442
—— nigroplagiatum	XXV.	18	444
—— teapense, ♂	XLIII.	2	s 319
—— flohri, ♂	XLIII.	5	s 319
Cerichrestus clarki	XXVI.	3	445
Omototus albomaculatus	XXVI.	15	446
Idmosyne clarki	XXVI.	8	447
—— panamensis	XXVI.	9	447
Octogonotes rufipennis	XXVI.	10	448
—— fulvomarginatus	XXVI.	11	449
—— ——, var.	XXVI.	4, 12	449
Metriotes nigricollis	XXVI.	5	449
—— apicicornis	XXVI.	6	450
Sparnus chiriquensis	XXVI.	23	451
—— apicalis	XXVI.	24	451
—— flavicollis	XXVI.	25	451
Zeteticus panamensis	XXVI.	7	452
Rhoicus unifasciatus	XXVI.	2	454
—— 8-maculatus	XXVI.	1	454
Tetragonotes oculata	XXV.	21, 22	457
—— militaris	XXV.	23, 24, 25	458
Physimerus brunneus	XXVI.	21	461
—— constricticollis	XXVI.	20	463
—— (?) nigripennis	XXVI.	22	465
Thrasygœus cordovensis	XXVI.	16	466
—— femoralis	XXVI.	17	467
—— scabrosus	XXVI.	18	467
—— ——, var.	XXVI.	19	467
Phylacticus major	XXV.	19	468
Omotyphus asper	XXVI.	13	470
—— semifasciatus	XXVI.	14	472
—— suturalis	XLIII.	3	s 322
—— carinatus	XLIII.	4	s 323
Cleophes unifasciata	XXV.	20	476
Monocesta ducalis	XXVII.	1	477
—— jansoni	XXVII.	2	477
—— clarki	XXVII.	6	478
—— depressa	XXVII.	3, 4	478
—— pallida	XXVII.	5	478
—— cyaneo-maculata	XXVII.	7	479
Cœlomera nigricollis	XXVII.	8	480
—— olivieri	XXVII.	9	481
—— godmani	XXVII.	10	481
Cœlomera punctaticollis	XXVII.	11	481
—— atrocærulea	XXVII.	12	481
Coraia maculicollis	XXVII.	13	482
—— clarki	XXVII.	18, 19	482
—— apicicornis	XLIII.	6	s 324
Nestinus bimaculatus	XXVII.	15	483
—— auriquadrum	XXVII.	14	483
Trirrhabda variabilis	XXVII.	16, 17	485
—— högei	XLIII.	8	s 325
—— sublævicollis	XLIII.	7	s 325
—— obscuro-vittata	XXVII.	22	486
—— mexicana	XXVII.	21	487
—— (?) modesta	XXVII.	20	487
—— foveicollis	XXVII.	23	488
—— semiviridis	XLIII.	9	s 326
—— rugosa	XLIII.	10	s 326
Galerucella (?) transversicollis	XXVIII.	1	490
—— fusco-maculata	XXVIII.	2	491
—— marmorata	XXVIII.	3	491
—— godmani	XXVIII.	4	492, s 327
—— amabilis	XLIII.	11	s 327
Ophræa subcostata	XXVIII.	5	493
—— rugosa	XXVIII.	6	493
—— ænea	XXVIII.	7	494
—— metallica	XXVIII.	8	494
—— melancholica	XXVIII.	9	495
Monoxia obtusa	XXVII.	24	496
—— guttulata?	XXVII.	25	497
Schematiza collaris	XXVIII.	15	498
—— bicolor	XXVIII.	14	499
—— chontalensis	XXVIII.	17	499
—— lateralis	XXVIII.	16	499
—— sallæi	XXVIII.	10	500
—— clarki	XXVIII.	11	501
—— thoracica	XXVIII.	12	501
—— suturalis	XXVIII.	13	501
Diabrotica regalis	XXVIII.	18	502
—— lacordairei *	XXVIII.	19	503, s 328
—— pygidialis, ♂	XXIX.	1	503
—— fenestralis	XXVIII.	20	504
—— elegantula	XXVIII.	21	504
—— gratiosa	XXVIII.	22	504
—— tessellata	XXIX.	3, 4	505
—— paradoxa	XXIX.	13	506
—— pulchra †	XXIX.	14	506, s 328
—— viridi-fasciata	XXIX.	15	507
—— signifera	XXXI.	3	507
—— rogersi	XXVIII.	24, 25	509
—— pulchella	XXIX.	11	510
—— 8-plagiata	XXX.	17	511

* *Diabrotica morosa* on the Plate.

† *Diabrotica albosignata* on the Plate.

	Plate.	Fig.	Page.
Diabrotica adelpha	XXIX.	8	511
—— tibialis	XXIX.	9	512
—— circulata	XXIX.	5	513
—— biannularis	XXIX.	7	513
—— nummularis	XXIX.	6	514
—— litterata *	XXIX.	10	514, s 328
—— viridicollis	XXX.	9	515
—— ——, var.	XXIX.	2	515
—— militaris	XXVIII.	23	516
—— quadricollis	XXX.	20	516
—— tripunctata	XXIX.	24	516, s 328
—— flaviventris	XXIX.	20	517
—— fulvo-signata	XXIX.	12	517
—— tricolor	XXXI.	16	517
—— 12-notata	XXX.	5	518
—— spilota	XXX.	6	518
—— duplicata	XXX.	7	519
—— apicicornis	XXX.	1	519
—— fulvicornis	XXX.	2	520
—— brevilineata	XXX.	3	521
—— nigrosignata	XXX.	10	522
—— trifurcata	XXX.	4	522
—— cyaneo-maculata	XXX.	8	523
—— nigrolineata	XXX.	16	523
—— curvilineata	XXX.	15	524
—— unilineata	XXX.	14	524
—— trilineata	XXX.	13	525
—— högei, var.	XXX.	12	525
—— porracea	XXIX.	17	526
—— ——, var.	XXIX.	18	526
—— 6-maculata	XXIX.	16	527
—— variegata	XXXI.	2	527
—— selecta	XXIX.	21	528
—— viridula, var. †	XXIX.	25	528, s 329
—— rufomaculata	XXIX.	22	529, s 329
—— balteata	XXIX.	23	530
—— tortuosa	XXX.	18	530
—— dissimilis	XXIX.	19	531
—— impressipennis	XXXI.	17	531
—— piceo-notata	XXXI.	1	531
—— vittata	XXXI.	5	535
—— porosa	XXXI.	9	536
—— difformis	XXXII.	9	536, s 330
—— cornuta	XXXI.	8	537
—— setosa	XXXII.	19	537, s 330
—— cava	XXXI.	7	539
—— decorata	XXXI.	6	539
—— granulata	XXXI.	4	540
—— 6-lineata	XXX.	11	541
—— ventricosa	XXXII.	25	543
—— bifasciata	XXXII.	23	544
—— subsignata	XXXII.	10	546
—— peregrina	XLIII.	12	s 330

	Plate.	Fig.	Page.
Diabrotica hirta	XXXII.	16	547
—— cruciata	XXXII.	2	547
—— adonis	XXXI.	21	548
—— nigro-fasciata	XXXI.	24	549
—— ——, var.	XXXI.	25	549
—— connexa	XXXII.	20	549
—— rufo-fasciata	XXX.	21	549
—— guerreroensis	XLIII.	13	s 331
—— dorso-plagiata, var.	XXXII.	24	550
—— lævicollis, var.	XXXII.	4	550
—— tricincta ‡	XXXII.	3	551, s 331
—— figurata	XXXII.	14	551
—— ——, var.	XXXII.	15	551
—— irregularis	XXXI.	21	554
—— bohemani	XXXI.	13	554
—— bicolor	XXXII.	6	555
—— interrupto-fasciata	XXXII.	13	555
—— jansoni	XXXII.	20	556
—— femorata	XXXI.	8	556
—— v-nigrum	XXXI.	18	556
—— 7-punctata	XXXII.	23	556
—— mexicana	XXXII.	22	557
—— 14-punctata	XXXI.	14	s 332
—— 6-punctata	XXXI.	19	558
—— 8-signata, var.	XLIII.	23	558
—— corallina	XXX.	17	560
—— lateritia	XXX.	12	561
—— flavifrons	XXXII.	22	561
—— distinguenda	XXXII.	5	564
—— smaragdina	XXXII.	1	565
—— gemmula	XXXII.	7	565
—— nigriceps	XXXII.	18	566
—— marginella	XXXII.	12	566
—— curtisi	XXXI.	10	567
—— longitarsis	XXXI.	11	567, s 332
—— fusco-marginata	XXXI.	19	568
—— waterhousei	XXXI.	24	568
—— maculata	XXXI.	11	568
—— antennata	XXX.	15	s 333
Pseudodiabrotica metallica, ♂	XXXII.	16	s 334
Microbrotica subglabrata	XLIII.	25	570
Phæstus chiriquensis	XLIII.	1	570
Neobrotica semicostata	XXXIII.	15	574
—— vittatipennis	XXXIII.	13	576
—— hondurensis	XXXIII.	22	577
—— denticornis, ♂	XXXIII.	11	578
—— cavifrons, ♂	XXX.	12	578
—— melanocephala	XXXIII.	14	579
—— ruatanæ	XXXIII.	17	s 335
—— 6-plagiata §	XXXIII.	14	553, s 331
—— ——, var.	XLIII.	15	553
Pyesia mexicana	XXXIII.	7	580
Malacorhinus tripunctatus ‖	XXX.	25	583

* *Diabrotica delineata* on the Plate.

† *Diabrotica fuscomaculata* on the Plate.

‡ *Diabrotica suffriani* on the Plate.

§ *Diabrotica 6-plagiata* on the Plate.

‖ *Malacosoma tripunctata* on the Plate.

	Plate.	Fig.	Page.
Malacorhinus irregularis, ♂	XXXIII.	16	583
—— antennatus, ♂	XXXIII.	19	584
—— 10-punctatus.....	XXXIII.	18	584
—— biplagiatus, ♂	XXXIII.	20	585
—— 6-punctatus, ♂	XXXIII.	21	586
—— dilaticornis, ♂	XXXIII.	22	589
—— reticulatus, ♂	XXXIII.	17	590
—— cobanensis, ♂	XLIII.	18	s 336
—— exclamationis, ♂	XLIII.	19	s 336
Orœtes flavicollis, ♂	XXXIII.	4	600
Metacycla marginata, ♂	XXXIV.	1	601
—— ——, ♀	XXXIV.	2	601
—— cæruleipennis, ♂	XXXIV.	3	601
—— robusta	XXXIV.	4	602
Platymorpha variegata, ♂	XXXIV.	5	603
—— smaragdipennis, ♂	XXXIV.	6	603
Pteleon semicæruleus, ♂	XXXIV.	7	604
—— ——, ♀, var.	XXXIV.	8	604
Cneorane nigricornis	XXXIV.	9	604
—— mexicana	XXXIV.	10	605
Metacoryna fulvicollis, ♂	XXXIII.	3	605
—— fulvipes, ♂	XXXIV.	11	606
—— pretiosa, ♂	XLIII.	20	s 338

	Plate.	Fig.	Page.
Scelida viridis.....	XXXIV.	12	606
—— (?) antennata	XXXIV.	13	607
—— glabrata	XXXIV.	14	607
—— rugosa	XXXIII.	8	607
—— elegans	XXXIV.	15	608
—— bella	XXXIII.	9	608
—— metallica	XXXIII.	10	608
Scelidopsis subcostata	XXXIII.	2	609
Chthoneis dilaticornis, ♂	XXXIII.	24	611
Miraces æneipennis	XXXIV.	16	611, s 340
Hecatæus nigricollis	XXXIII.	23	612
Elyces nigro-maculatus, ♀	XXXIII.	5	613
—— 4-maculatus, ♂	XXXIII.	6	613
Masurius bifasciatus	XXXIV.	17	615
Cerotoma salvini, ♂	XXXIV.	18	617
—— dilatipes, ♂	XXXIV.	19	617
—— rogersi, ♂	XXXIV.	20	618
Monolepta irazuensis.....	XXXIV.	21	619
—— imitans	XXXIV.	22	621
—— panamensis	XXXIV.	23	622
—— velutina	XXXIV.	24	623
—— bipartita	XXXIV.	25	625

ERRATA ET CORRIGENDA.

PART I.

Page	Line	
5	10	*for* Senanhu *read* Senahu.
14	34	and p. 20 line 18, *for* Pancina *read* Panima.
24	6	*for* II. *read* I.
26	8	and in many other places, *for* Panistlahuca *read* Panistlahuaca.
48	22	and p. 56 line 1, *for* **Crytocephalus** *read* **Cryptocephalus.**
59	10	*after* Cuernavaca, *dele* " Gua,"
61	36	*for* margin *read* margin of the elytra.
63	37	for *T.* read *S.*
64	26	for *T.* read *P.*
71	12	for *Pachybrachys* read *Cryptocephalus.*
71	13	*for* iv. *read* i.
86	34	*for* **bipunctatus** *read* **bipunctata.**
104	35	*for* **hirta** *read* **hirtum.**
106	13	*for* fig. 7 *read* fig. 1.
112	36	*for* Zumbador *read* Tumbador.
115	34	*for* Cosamatopan *read* Cosamaloapan.
122	25	*for* 1876 *read* 1877.
124	7	*for* 2 *read* 1.
127	36	and in other places, *for* Tepanistlahuca *read* Tepanistlahuaca.
142	17	*for* **subcostatus** *read* **subcostata.**
143	25	*for* Taf. *read* Tab.
145	11	*for* **Colapsis** *read* **Colaspis.**
151	3	and p. 152 line 29, *for* Cosamalcapam *read* Cosamaloapan.
157	19	*for* Zumbador *read* Tumbador.
175	25	for *M.* read *N.*
179	4	*for* **viridicyanea** *read* **viridicyaneus.**
183	25	*for* **brunneus** *read* **brunnea.**
186	34	before PANAMA insert *Hab.*
189	4	*for* **cyanopterum** *read* **cyanopterus.**
189	10	*for* **viride** *read* **viridis.**
189	14	*for* **mexicanum** *read* **mexicanus.**
201	26	*for* Minas Viaxas *read* Minas Viejas.
238	3	*for* Vera Cruz *read* Vera Paz.
249	29	*for* Cosamoloapam *read* Cosamaloapan.
258	13	*after* **punctipennis** *insert* (Tab. XIV. fig. 3.)
272	5	for *xantochroa* read *xanthochroa.*
275	3	*for* Haltengo *read* Jaltenco.
276	29	*for* **semiviolaceus** *read* **semiviolacea.**
284	17	*for* **Pletrotetra** *read* **Plectrotetra.**
286	23	*for* PANAMA, Bugaba *read* GUATEMALA, Zapote.
295	34	*for* Chapas *read* Chiapas.
303	27	*for* Yuquila *read* Juquila.
305	10	*for* Codahuila *read* Coahuila.
305	11	*for* Cosomatepec *read* Coscomatepec.
384		dele lines 23, 24, 25.
394	28	transfer "b. *Anterior coxal cavities closed.*" to p. 393 before PSYLLIODES.
464	26	*for* **rubicunda** *read* **rubicundus.**
477	9	and p. 485 line 25, *for* Coscomotepec *read* Coscomatepec.
517	11	*before* **Diabrotica** *insert* 34.
569		dele lines 32, 33, 34.
580	16	*after* **mexicana** *insert* (Tab. XXXIII. fig. 7.)
614	41	*for* four *read* three.
615	13	for *flavipes* read *flavicollis.*

SUPPLEMENT.

Page	Line	
43	7	*for* 65 *read* 64.
43	31	*for* 66 *read* 65.
44	3	*for* 67 *read* 66.
59	15	*for* **gracilenta** *read* **gracilentus.**
79	37	*for* 13 *read* 14.
80	17	*for* 14 *read* 15.
127	12	*for* fig. 4 *read* fig. 9.
125	1	*for* DIASPSIS *read* DIASPIS.
155	5	for *paradoxus* read *paradoxa.*
236	33	for *viridicyanea* read *viridicyaneus.*
238	7	*for* **limbata** *read* **limbatus.**
238	16	for *limbata* read *limbatus.*
241	5	*for* **fusculum** *read* **fusculus.**
241	19	for *fusculum* read *fusculus.*
253	12	*before* **Leptinotarsa** *insert* 11 (A).
331	34	*for* 55 *read* 551.

BIOLOGIA CENTRALI-AMERICANA.

ZOOLOGIA.

Class INSECTA.

Order COLEOPTERA.

Tribe PHYTOPHAGA.

Fam. SAGRIDÆ.

The genus *Aulacoscelis* (now containing three Central-American species) has lately been included in this family by Chapuis, but not without some doubt as to its proper place amongst the Phytophaga. The comparative length of the abdominal segments and the form and shape of the tongue, however, justify its classification amongst the Sagridæ with greater right than amongst the true Chrysomelidæ, in which Stål included it.

AULACOSCELIS.

Aulacoscelis, Chevrolat, Dict. Univ. Hist. Nat. ii. p. 338 (1849).

Three species belonging to this genus have been described up to the present time, all peculiar to Mexico and Guatemala.

1. Aulacoscelis melanocera.

Aulacoscelis melanocera, Stål, Nov. Act. Ups. 1865, p. 342; Chevrolat, Dej. Cat. 3rd ed. p. 419.

Hab. MEXICO.

2. Aulacoscelis candezei.

Aulacoscelis candezei, Chapuis, Gen. Col. x. p. 55.

Hab. GUATEMALA.

Chapuis has only given a short diagnosis of this species, which is principally distinguished by the violet reflections and the two longitudinal costæ of the elytra.

3. **Aulacoscelis melanocephala.** (Tab. I. fig. 1.)

Aulacoscelis melanocephalus, Jacoby, P. Z. S. 1877, p. 510.

Hab. GUATEMALA, near the city (*Salvin*).

Fam. CRIOCERIDÆ.

Out of the ten or eleven genera of this family three only have representatives in Central America, viz. *Lema*, *Crioceris*, and *Megascelis*.

LEMA.

Lema, Fabricius, Ent. Syst. Suppl. p. 90 (1798).

The Munich Catalogue contains the names of no less than 417 species of *Lema*, from all parts of the globe. More than half of them inhabit the New World; and of these upwards of sixty species are found in Central America.

1. **Lema æraria.**

Lema æraria, Lacord. Mon. p. 354.

Hab. MEXICO.

2. **Lema bituberculata.**

Lema bituberculata, Clark, Cat. Phyt. App. p. 35.

Hab. MEXICO.

3. **Lema angelica.**

Lema angelica, Lacord. Mon. p. 357.

Hab. MEXICO, Oaxaca.

4. **Lema fryi.**

Lema fryi, Clark, Cat. Phyt. App. p. 60.

Hab. MEXICO.

5. **Lema chalybeipennis.**

Lema chalybeipennis, Chevr. Col. Mex. 1835, cent. ii. no. 111; Lacord. Mon. p. 385.

Hab. MEXICO.

6. **Lema bouchardi.**

Lema bouchardi, Baly, Cistula Entom. ii. p. 307 (1878)[1].

Hab. GUATEMALA [1], Calderas (*Champion*).

Of this species two specimens have been received from the above locality: one of

them agrees perfectly with the typical specimen before me; the other, however, although not structurally different, disagrees entirely as to colour; but as this is the only difference, I consider it to be a variety, which I propose to call

Lema bouchardi, var. **problematica.** (Tab. I. fig. 10.)

Distinguished by having the head and breast black instead of fulvous, the elytra violaceous blue with the apex only fulvous instead of being entirely of this colour, and by the fulvous colour of the hinder tibiæ, which are black in the type. The latter may possibly be an immature specimen.

7. Lema cingulata.

Lema cingulata, Clark, Cat. Phyt. App. p. 41.

Hab. Mexico.

8. Lema quadricolor.

Lema quadricolor, Lacord. Mon. p. 402[1]; Jacq. Duv. La Sagra's Hist. Cuba, vii. p. 116[2]; Dej. Cat. 3rd ed. p. 386[3].

Hab. Mexico[1].—Cuba[2].

9. Lema equestris.

Lema equestris, Lacord. Mon. p. 403; Klug, Dej. Cat. 3rd ed. p. 386.

Hab. Mexico; Guatemala, Dueñas (*Champion*).

Numerous specimens have been sent by Mr. Champion from the latter locality.

10. Lema elegantula. (Tab. I. fig. 4.)

Elongate, convex, testaceous; head and thorax rufous; antennæ (the first two joints excepted), legs, and part of the breast black; elytra deeply punctate-striate, testaceous, a transverse band at the base, another behind the middle, and the extreme apex black.

Length 3 lines.

Head impunctate, deeply foveolate in the middle; antennæ about one third the length of the body, black, the first two joints rufous, third joint double the length of the second; thorax very moderately constricted at the sides, the transverse basal depression obsolete, with a short fovea near the base and a few punctures placed on the disk; scutellum rufous; elytra very deeply but distantly punctate near the base, more finely towards the apex, the interstices at the latter place distinctly costate, of a light testaceous colour, a transverse band at the base occupying about one fourth of the elytra, another band of equal width below the middle, and the extreme apex black; none of these bands touches the lateral margins; underside testaceous, part of the breast and the legs black.

Hab. British Honduras, R. Sarstoon (*Blancaneaux*).

Closely allied to *L. equestris* and *L. placida*, Lacord.; but the laterally interrupted elytral bands and the strong punctuation distinguish it, the latter difference from *L. placida*, the former from *L. equestris*.

11. **Lema bitæniata.**

Lema bitæniata, Lacord. Mon. p. 405; Chevrol. Col. Mex. cent. i. fasc. 1, no. 24.

Hab. Mexico.

This species may be separated from *L. equestris* and *L. elegantula* principally by its rufous antennæ and black underside.

12. **Lema flavofasciata.**

Lema flavofasciata, Clark, Cat. Phyt. App. p. 43.

Hab. Panama.

13. **Lema violaceofasciata.**

Lema violaceofasciata, Clark, Cat. Phyt. App. p. 42.

Hab. Mexico.

14. **Lema transversofasciata.** (Tab. I. fig. 11.)

Elongate-parallel, flavous; head, basal and middle joints of the antennæ, and the breast black; elytra with a broad transverse bluish-black band at the base surrounding two small flavous spots, and another narrow band below the middle.

Length $3\frac{1}{3}$ lines.

Head with some distinct punctures round the inner orbits of the eyes and a small fovea in the middle; antennæ slender, filiform, flavous, or the basal and middle joints more or less black; thorax scarcely longer than broad, moderately constricted at the sides, the basal transverse groove obsolete; surface impunctate, shining flavous or rufous; scutellum black; elytra moderately deep punctate-striate, the punctuation obsolete towards the apex, where the interstices are slightly costate, without any basal transverse depression, of a slight flavous colour; the basal dark blue band reaches to nearly half the length of the elytra, and has near its anterior margin two small flavous spots or streaks, while its posterior margin is irregularly dentate or sinuate; the second band is of less than half the width of the first, neither of them extending to the lateral margin; legs and abdomen entirely flavous.

Hab. Costa Rica, Rio Sucio, Volcan de Irazu (*Rogers*).

Several almost similarly coloured species have been described. This is most nearly allied to *L. ducalis*, Lacord., and *L. basalis*, Chevr., as well as to *L. violaceofasciata*, Clark; but it differs from the first and second by the colour of the antennæ and legs as well as that of the head; the blue elytral bands are also differently shaped; from *L. violaceofasciata* the light-coloured legs and the small fulvous basal spot of the elytra will separate it, although the latter may sometimes be wanting.

15. **Lema nicaraguensis.** (Tab. I. fig. 13.)

Lema nicaraguensis, Jacoby, P. Z. S. 1879, p. 774.

Head and thorax ferruginous; antennæ (the base excepted), breast, tibiæ, and tarsi black; elytra bluish black, the lateral margins, a transverse median band, and the apex flavous; femora and abdomen testaceous.

Length 3 lines.

Hab. Nicaragua, Chontales (*Janson*).

16. **Lema biornata,** sp. n.

Ovate, convex; head, antennæ (last three joints excepted), breast, and tibiæ black; thorax, abdomen, and femora fulvous; elytra bluish black, a small spot at the base of each elytron, a transverse band in the middle, and another oblique spot near the apex flavous.

Length 3 lines.

Head impunctate, entirely black; antennæ reaching to one third of the elytra, black, their three apical joints fulvous; thorax nearly as long as broad, the sides not deeply constricted, surface impunctate; elytra deeply punctate-striate near the base, the punctures greatly diminishing below the latter, almost obsolete towards the apex, the interstices scarcely costate.

Hab. GUATEMALA, Senanhu, Vera Paz (*Champion*).

This is another species closely allied to *L. bitæniata*, Lacord., and *L. transversofasciata*, Jacoby, as well as to *L. flavofasciata*, Clark; from each of which it differs in some way or other.

From *L. transversofasciata* (described here) it differs in the black apex of the elytra and the colour of the antennæ and legs as well as that of the breast; from *L. bitæniata* in the black head and the small flavous spot near the base of the elytra; and, lastly, the colour of the underside and head distinguish it from *L. flavofasciata.* All these species, together with others belonging to the seventeenth group of Lacordaire, are closely allied in coloration; but although the differences between them are not great and consist principally of colour, yet they are constant and form good characters to distinguish the species from each other.

17. **Lema picturata.**

Lema picturata, Lacord. Mon. p. 406.

Hab. MEXICO.

Another nearly allied species to the four or five preceding ones; the colour of the antennæ, which are black, with the exception of the first four joints, will help to distinguish it.

18. **Lema troberti.**

Lema troberti, Lacord. Mon. p. 407.

Hab. MEXICO.

19. **Lema confusa.**

Lema confusa, Chev. Col. Mex. cent. ii. no. 116[1]; Lacord. Mon. p. 409[2]; Jacq. Duval, La Sagra's Hist. Cub. vii. p. 117, t. 11. f. 3[3].

Var. *Lema trabeata,* Dej. Cat. 3rd ed. p. 386[4].

Hab. MEXICO, Yucatan.—CUBA[3].

20. **Lema signaticornis.**

Lema signaticornis, Chevr. Col. Mex. cent. ii. 1835, no. 113; Lacord. Mon. p. 417.

Hab. MEXICO.

21. Lema trilineata.

Lema trilineata, Oliv. Ent. vi. 1808, p. 739, t. 2. f. 20; Lacord. Mon. p. 418; Harris, Rep. Ins. Massach. injur. p. 95.
Lema, var. *immaculicollis*, Chevr. Col. Mex. cent. ii. 1835, no. 112.
Lema trivirgata, Leconte, Col. of Kansas, 1859, p. 22.
Lema lecontei, Clark, Cat. Phyt. 1866, p. 31.
Lema trivittata, Say, Journ. Ac. Phil. iii. p. 429.

Hab. N. America.—Mexico; Honduras; Costa Rica.—Cuba.

Var. *immaculicollis*, Chevr., has also been received from Honduras.

22. Lema nigrovittata.

Lema nigrovittata, Guér. Ic. Règn. Anim. iii. p. 262[1]; Lacord. Mon. p. 421.
Lema melanocephala, Dej. Cat. 3rd ed. p. 386.

Hab. N. America, California[1].—Mexico.

This species is very closely allied to the preceding one, and is equally variable. It is, however, less robust and smaller; and the submarginal stripe is not placed so close to the outer margin as in *L. trilineata*.

23. Lema opulenta.

Lema ornata, Baly, Ann. & Mag. Nat. Hist. ser. 3, xvi. p. 158[1] (nec Gravenh.).
Lema opulenta, Gemm. & v. Har. Cat. Col. xi. p. 3258[2].

Hab. Guatemala[1], Zapote, Dueñas (*Champion*).

The Munich Catalogue name, *L. opulenta*, Harold, has been substituted for that given by Mr. Baly, whose title is unfortunately preoccupied. I am, however, quite unable to find any reference to the subject in part xiii. of the Coleopterologische Hefte, or any mention of the species.

24. Lema abrupta.

Lema abrupta, Lacord. Mon. p. 422.

Hab. Mexico.

25. Lema salvini.

Lema salvini, Baly, Cistula Entom. pt. ii. 1878, p. 313.

Hab. Guatemala, near the city (*Salvin*).

26. Lema semisepta.

Lema semisepta, Lacord. Mon. p. 423[1].

Hab. Guatemala, Capetillo (*Champion*).—Brazil[1].

I refer a single specimen sent from Guatemala to this species; it differs, however, in several particulars: the tibiæ and knees are black, as well as the antennæ, with the exception of the last two joints, which are rufous; the thorax is as broad as long; and the elytral spot is absent as in Lacordaire's var. *a*.

27. **Lema suffriani.** (Tab. I. fig. 14.)

Lema suffriani, Jacoby, P. Z. S. 1878, p. 982.

Hab. Costa Rica, Volcan de Irazu (*Rogers*).

Light testaceous; head and breast black; elytra testaceous, a short sutural and submarginal stripe at the base, and two small spots, one before the other, behind the middle of each elytron, violaceous black.
Length $2\frac{3}{4}$–$3\frac{1}{2}$ lines.

The light-coloured antennæ and the extra spot on the posterior half of the elytra principally distinguish this species from the preceding one.

28. **Lema basalis.**

Lema basalis, Chevr. Col. Mex. cent. ii. no. 115; Lacord. Mon. p. 436.

Hab. Mexico, Vera Cruz.

29. **Lema biannularis.**

Lema biannularis, Clark, Cat. Phyt. App. p. 46.

Hab. Guatemala.

30. **Lema bicincta.**

Lema bicincta, Lacord. Mon. p. 440.

Hab. Mexico.

31. **Lema championi.** (Tab. I. fig. 5.)

Lema championi, Jacoby, P. Z. S. 1879, p. 773.

Fulvous; head and breast black; basal and three terminal joints of the antennæ fulvous, the rest black; elytra punctate-striate, dark violaceous, a curved median transverse band and the apex fulvous.
Length $3\frac{2}{3}$ lines.
Head impunctate, constricted behind the eyes, the lateral grooves deeply impressed; antennæ nearly half the length of the body, joints two and three and the three terminal ones fulvous; thorax a little longer than broad, its sides moderately constricted near the base, surface impunctate and not transversely grooved; elytra with a short, rather obsolete impression below the base, deeply punctate at their anterior half, the punctures greatly diminishing in depth towards the apex, the interstices also finely punctured and slightly costate posteriorly, violaceous blue, with a narrow transverse band across the middle of the disk and the apex more broadly fulvous; abdomen and the legs lighter fulvous.

Hab. Guatemala, Zapote (*Champion*).

This species is another form belonging to the several almost similarly marked ones of group 19 of Lacordaire. It cannot, however, be easily confounded with the rest on account of the colour of the antennæ, the want of the fulvous elytral margin, and the basal depression, as well as the punctured interstices of the elytra.

32. **Lema lucublanda.**

Lema lucublanda, Lacord. Mon. p. 441.

Hab. Mexico.

This insect, as well as *L. bicincta*, Lacord., is most nearly allied to *L. championi*; but in both the thorax shows a distinct transverse basal depression and the antennæ are entirely rufous.

33. **Lema soror.**

Lema soror, Lacord. Mon. p. 442.

Hab. MEXICO.

The black antennæ, punctured thorax, and the black spot of the latter will separate this species from the two preceding ones.

34. **Lema bisbivittata.**

Lema bisbivittata, Clark, Cat. Phyt. App. p. 49.

Hab. MEXICO.

Clark says that this species belongs to the seventeenth group of Lacordaire's Monograph, and that it is closely allied to *L. signaticollis*, Lacord.; but both assertions are evidently mistakes, as *L. signaticollis* does not belong to the seventeenth but to the twenty-third group; Clark's species, moreover, bears no affinity whatever to *L. signaticollis* either in shape or coloration, as the type (which is contained in the collection of the British Museum) has proved to me.

The insect, however, is not unlike *L. signaticornis*, Chevr., after which it ought to be placed; and it is very likely that Clark meant this latter insect, and has by mistake substituted the name of *L. signaticollis*, although he even quotes the page in Lacordaire's work where this species is described.

35. **Lema varipes.**

Lema varipes, Lacord. Mon. p. 454.

Hab. MEXICO.

36. **Lema nupta.**

Lema nupta, Lacord. Mon. p. 455.

Hab. MEXICO.—COLOMBIA.

To Lacordaire's excellent description I may add that the specimens which I possess from Mexico show a slight depression below the base of the elytra and some fine punctures on the anterior portion of the elytral interstices; the antennæ are robust, short, and their apical joints almost as broad as long. Although Lacordaire gives Colombia as the habitat, my specimens must be referred to this species on account of the colours of their antennæ, which have their first six joints of the ground-colour, instead of four, as is the case in *L. varipes*.

37. **Lema quinquenotata.** (Tab. II. fig. 2.)

Lema quinquenotata, Clark, Cat. Phyt. App. p. 50.

Hab. MEXICO.

38. **Lema atricornis.**

Lema atricornis, Chevr. Col. Mex. cent. ii.; Lacord. Mon. p. 457.

Hab. MEXICO.

39. **Lema sexnotata.** (Tab. I. fig. 8.)

Lema sexnotata, Chevr. Col. Mex. cent. ii. no. 114; Lacord. Mon. p. 460.

Hab. MEXICO.

40. **Lema nigromaculata.** (Tab. I. fig. 7.)

Parallel, convex, rufous; antennæ (first joint excepted), sides of the breast, and the tibiæ and tarsi black; elytra deeply punctate-striate (the ninth stria not interrupted), rufous, a sutural spot at the base, another at the shoulders and at the extreme apex, and a short transverse band below the middle black.

Length $2\frac{1}{2}$ lines.

Head and thorax impunctate, the former with a short but distinct fovea and a more obsolete transverse groove between the eyes, these latter very prominent; basal joint of the antennæ rufous; thorax subquadrate, very moderately constricted at the sides; surface obsoletely transversely grooved, with a small fovea near the base; scutellum rufous; elytra with a short depression below the base, very deeply punctured anteriorly, much less so towards the apex, of a little lighter colour than the thorax; each elytron with a spot of nearly quadrate form at the shoulder, not touching the margin, a smaller one at the extreme apex, and a narrow transverse short band below the middle black; a larger nearly circular spot, common to both elytra, surrounds the scutellum; underside coloured like the elytra, the sides of the breast, a triangular patch occupying the sides of the first and second abdominal segments, base and upperside of the femora, and the tibiæ and tarsi black.

Hab. NICARAGUA, Chontales (*Janson*).

The black elytral apex and the position of the other spots will separate this species from those allied ones, belonging to the first division of Lacordaire, with uninterrupted ninth stria.

41. **Lema godmani.** (Tab. II. fig. 4.)

Convex, parallel, rufous; antennæ, legs, and seven spots (3, 2, 2) on the elytra black; ninth stria of the latter entire.

Length 2 lines.

Head exactly like that of the preceding species; antennæ about half the length of the body, black; thorax shaped like that of *L. nigromaculata*, the sides a little more constricted, and the anterior part rather swollen and prominent; surface impunctate and resembling *L. nigromaculata*; scutellum black; elytra very convex, with a very indistinct short depression below the base, moderately deeply punctate-striate at their anterior portion, the apex smooth and impunctate; rufous, a little black spot surrounding the scutellum and three larger ones on each elytron placed as follows—an oblong spot at the shoulder, a larger round one near the suture below the scutellum, and a short transversely shaped mark below the middle; the underside and the base of the femora light rufous, sides of the breast and the legs black.

Hab. NICARAGUA, Chontales (*Janson*).

It is possible that this species may turn out to be a variety of *L. sexnotata*, Lac., from which, however, the entirely black antennæ, the impunctate thorax, and the extra scutellar black spot distinguish it. From *L. nigromaculata* the convex elytra and the want of the black apex of the latter separate it.

42. **Lema minuta.** (Tab. II. fig. 3.)

Elongate, parallel, piceous below, above fulvous; elytra deeply punctate-striate, the anterior part of the suture and a spot at each shoulder, as well as the antennæ and legs, black.

Var. The elytral spots wanting.

Length 1½ line.

Base of the head rugose-punctate, distinctly bituberculate, the tubercles divided by a short longitudinal ridge; lower part of face covered with thin yellowish hairs; labrum piceous; antennæ nearly as long as half the body, black; thorax elongate, fulvous, moderately constricted in the middle, the anterior angles rotundate, distinctly transversely grooved near the base, surface with a double row of fine punctures, the anterior angles also distinctly punctate; elytra deeply punctate-striate, the interstices near the apex distinctly costate, the ninth stria uninterrupted; they are of the same fulvous colour as the thorax, with the first third of the sutural margin and the shoulders narrowly black; underside piceous, the abdomen more or less fulvous and finely pubescent; legs entirely black, the posterior femora not extending much beyond the first abdominal segment. In the variety there is an entire absence of the elytral spots.

Hab. GUATEMALA, San Gerónimo (*Champion*).

43. **Lema antennalis.** (Tab. I. fig. 6.)

Lema antennalis, Jacoby, P. Z. S. 1879, p. 774.

Elongate, subdepressed, parallel, chestnut-coloured, variegated with piceous; antennæ short, robust, their apical joints transverse, black, three basal joints rufous; elytra finely punctate-striate, the interstices finely rugose, piceous, the sutural and lateral margins light brown.

Length 3 lines.

Hab. GUATEMALA, Zapote (*Champion*).

This interesting species, of which only one specimen was received from the above locality, will easily be recognized on account of the curiously shaped antennæ, the broad subdepressed elytra, and the fine rugosities which cover their interstices; the thorax shows some traces of punctures near the sides and on the disk; the latter has also a longitudinal indistinct black central line and an equally obsolete piceous spot at each side, while the head bears traces of the same colour near the base and the middle.

44. **Lema hexastigma.**

Lema hexastigma, Lacord. Mon. p. 476.

Hab. MEXICO.

45. **Lema scutaria.** (Tab. II. fig. 6.)

Elongate, subdepressed, fulvous; antennæ, sides of breast, knees, and the tibiæ and tarsi black; elytra deeply punctate-striate, the ninth stria largely interrupted, with a semicircular depression below the base fulvous; a short sutural stripe, a small shoulder-spot, and a short longitudinal stripe near the apex black.

Length 2 lines.

Head convex, impunctate, not constricted behind the eyes; antennæ not quite half the length of the body, the fifth to the eleventh joints thickened and robust; thorax rather longer than broad, its sides moderately constricted, surface with a few very minute punctures in the middle, the transverse groove obsolete; scutellum black; elytra with a distinct semicircular depression below the base, their surface rather depressed and very deeply punctate-striate, the interstices near the apex distinctly costate; the ninth stria is only indicated by one or two punctures anteriorly, the rest is smooth and costate; the colour of the elytra is of a rather lighter shade than that of the thorax; each elytron has a small black spot at the shoulder and a short longitudinal rather curved stripe near the apex; the suture, to the extent of one third its length, is also narrowly black at the base. Below, the sides of the breast, the coxæ, and the knees, as well as the tibiæ and tarsi, are black; the other parts light fulvous, finely pubescent.

Hab. GUATEMALA, Calderas (*Champion*).

I know of no species with which the present one may be confounded; the circular depression at the base of the elytra and the markings of the latter distinguish it from nearly allied forms of the second subdivision of Lacordaire.

46. **Lema discoidalis.**

Oblong-parallel, flavo-testaceous; antennæ (the first joint excepted), apex of the tibiæ, and the tarsi black; elytra foveolate, punctate-striate, flavous, the disk occupied by a broad longitudinal piceous patch from base to nearly the apex.

Length 2 lines.

Hab. GUATEMALA, Zapote (*Champion*).

The differences between this insect and *L. dejeani*, Lacord., to which it is closely allied in coloration, consist in the following points:—It is smaller and of a uniform testaceous colour, while in *L. dejeani* the anterior part of the head is black; the principal difference, however, consists in the sculpture of the elytra, the latter in the present insect being so deeply punctate as to represent small foveas; the interval between the eighth and ninth striæ is also much less raised and does not form a distinct costa as in *L. dejeani*; lastly, the two patches on the elytra of the last-named species are here united and form one continuous broad vitta, whose extremity is widened and does not touch any of the margins; the thoracic transverse impression near the base is much more distinct than in *L. dejeani*.

47. **Lema högei.** (Tab. II. fig. 5.)

Oblong, fulvous; antennæ, tibiæ, sides of the breast, and a round spot on each elytron below the base black.

Length 2 lines.

Head impunctate, with the orbital grooves distinct; antennæ filiform, as long as half the body, black, first and second joints fulvous; thorax subquadrate, sides moderately constricted, basal groove obsolete on the disk, distinct at the sides, surface smooth, impunctate; elytra parallel, with a short but deep transverse depression below the base, very deeply punctate-striate, the ninth stria interrupted, interstices near the apex costate, fulvous, with a round black spot placed in the hollow of the basal depression. Underside finely covered with yellowish pubescence; the sides of the breast, the upperside of the anterior femora, together with the tibiæ and tarsi, black; posterior femora a little shorter than the abdomen.

Hab. MEXICO, Jalapa (*Höge*).

48. **Lema sinuata.**

Lema sinuata, Lacord. Mon. p. 482.

Hab. MEXICO, Oaxaca.

49. **Lema albini.**

Lema albini, Lacord. Mon. p. 492.

Hab. N. AMERICA.—MEXICO; GUATEMALA, Dueñas (*Champion*).

A specimen before me from Guatemala differs in the following points from the typical species:—The antennæ, instead of being entirely black, have their first joint rufous; the thorax shows a fine central line of punctures; and the posterior femora do not reach further than to the second abdominal segment, instead of the fourth, as described by Lacordaire; but the latter character may be sexual. As it agrees perfectly in other respects with the type, the specimen in my hands may be a local variety.

50. **Lema longicornis.**

Lema longicornis, Chevr. Col. Mex. cent. ii. no. 118; Lacord. Mon. p. 500.

Hab. MEXICO, Vera Cruz.

51. **Lema dorsalis.** (Tab. I. fig. 9.)

Lema dorsalis, Oliv. Encycl. Méth. vi. p. 201; Ent. vi. p. 743, t. 2. f. 27; Lacord. Mon. p. 499.
Lema nigricornis, Fabr. Suppl. Ent. Syst. p. 91.

Hab. GUATEMALA, Zapote (*Champion*).—CUBA; SOUTH AMERICA.

It is not easy to determine with certainty three or four almost identically coloured species described by Lacordaire, of which this is one; and he himself doubts the specific distinction of *L. longicornis.* The specimens from Guatemala, however, agree perfectly with Lacordaire's description of *L. dorsalis* in *not* having the lateral margin anteriorly marked with piceous, as is the case in *L. gracilis.* Their length is two lines; and in one specimen the anterior elytral blue patch is broadly united to the posterior one along the sutural margin. Although this species has a very wide range, it has not been previously recorded from Central America.

52. **Lema dichroa.**

Lema dichroa, Lacord. Mon. p. 514.

Hab. MEXICO.

53. **Lema subapicalis.** (Tab. I. fig. 12.)

Lema subapicalis, Baly, Cistula Ent. pt. ii. 1878, p. 310.

Hab. GUATEMALA.

54. **Lema plumbea.**

Lema plumbea, Chevr. Col. Mex. cent. ii. no. 117[1]; Lacord. Mon. p. 516.

Hab. MEXICO[1]; GUATEMALA, Tamahu, Vera Paz (*Champion*).

This insect is larger than *L. pudens*, Lacord., and distinguished by the red base of the femora, the distinct elevation of the base of the elytra, and the red basal portion of the head.

55. **Lema pudens.**

Lema pudens, Lacord. Mon. p. 515.

Lema rubricollis, Dej. Cat. 3rd ed. p. 387.

Hab. GUATEMALA, Zapote, Dueñas, Guatemala city, and Tamahu, Vera Paz (*Champion*); NICARAGUA, Chontales (*Belt*).

Smaller than *L. plumbea*, the base of the elytra much less raised, the punctured striæ more deeply impressed; legs entirely black.

56. **Lema alcyonea.**

Lema alcyonea, Lacord. Mon. p. 517.

Hab. MEXICO.

57. **Lema maculifrons.**

Lema maculifrons, Clark, Cat. Phyt. App. p. 59.

Hab. COSTA RICA.

58. **Lema bipustulata.** (Tab. II. fig. 10.)

Oblong-parallel, violaceous, below black; base of the head with two rufous spots, smooth; elytra deeply punctate-striate; base of the femora rufous.

Length 2 lines.

Head smooth, shining; antennæ slender, filiform, as long as half the body; thorax a little broader than long, the anterior angles subacute, sides very moderately constricted, the basal transverse groove distinct and sinuate at the sides, surface impunctate; elytra moderately deeply punctured, their base distinctly elevated and deeply depressed below the elevation, the punctured striæ much less deep towards the apex, the latter not costate except near the lateral margin, the ninth striæ interrupted; underside black, finely pubescent, base of the femora rufous.

Hab. COSTA RICA (*v. Patten*).

The differences between this insect and *L. maculifrons* consist in the larger size of the former, its black antennæ, the totally impunctate and not rugose head, and the colour of the base of the femora; the transverse basal depression of the elytra, although deep, is not so strong as in *L. maculifrons*; and the thorax shows no traces of punctuation.

59. **Lema inquinata.**

Lema inquinata, Lacord. Mon. p. 527.

Hab. MEXICO.

60. **Lema cærulea.**

Lema cærulea, Lacord. Mon. p. 523[1].

Hab. GUATEMALA, Zapote (*Champion*).—COLOMBIA[1].

I do not find any considerable difference between the one insect sent from Guatemala and the Colombian form: the punctures on the elytra are rather more distant, and the basal depression is very deep.

61. **Lema mexicana.** (Tab. II. fig. 7.)

Oblong, fulvous; antennæ (the first joint excepted) and legs black; elytra with the ninth stria interrupted, light fulvous, a broad transverse band at the base and a narrower one below the middle black.

Length 2 lines.

Head impunctate, rufous; antennæ three fourths the length of the body, filiform, black, the first joint fulvous; thorax subquadrate, but slightly constricted laterally, basal transverse groove obsolete, surface impunctate, rufous; scutellum fulvous, as well as the elytra; these transversely depressed below the base, deeply punctate-striate, diminishing in depth towards the apex; the basal transverse black band occupies one third of the length of the elytra, and its posterior margin is cut obliquely; it also extends to the lateral margin, which is not the case with the narrow band behind the middle, which reaches to the sutural but not the lateral margin; underside and legs black, base of the femora fulvous.

Hab. MEXICO.

The interrupted ninth stria places this species in the second division of Lacordaire's Monograph, where it might follow *L. verecunda*, Lacord.

62. **Lema pustuligera.** (Tab. II. fig. 9.)

Black, base of the head more or less rufous; elytra transversely depressed below the base, deeply punctate-striate anteriorly, dark violaceous or bluish black, shining, a transverse narrow band behind the middle and the lateral margin posteriorly, both more or less distinct, fulvous.

Length $1\frac{3}{4}$–2 lines.

Head distinctly bituberculate behind the eyes, impunctate, orbital grooves distinct, lower part of face black, upper part of the head rufous, with a smaller or larger blackish spot between the eyes; antennæ as long as half the body, black, the first joint fulvous; thorax almost square-shaped, moderately constricted, with a rather distinct transverse groove near the base, surface impunctate, black; elytra deeply depressed below the base, the latter raised, strongly punctate, the punctures much less deeply impressed behind the middle and almost connected with each other towards the apex, the interstices there distinctly costate near the lateral margins; the fulvous band is narrowed towards the suture and does not extend quite to the latter; the ninth stria is largely interrupted.

Hab. GUATEMALA, Pancina, Vera Paz (*Champion*).

This pretty little species bears some resemblance to *L. rufozonata*, Clark; but is perfectly distinct on account of the dark legs, antennæ, and thorax, as well as other particulars.

CRIOCERIS.

Crioceris, Geoffroy, Hist. Ins. Par. i. p. 237 (1762).

The thirteen species of this genus recorded in the Munich Catalogue which are

found in Central America have their metropolis in Mexico according to the state of our present knowledge, although their geographical distribution extends doubtless much further, two species at least having been found quite lately as far south as Guatemala. Neither North nor South America has furnished us with a single species—the more remarkable, as the latter country especially possesses so many species of the nearly allied genus *Lema*. The rest of the species of *Crioceris*, to the amouut of about seventy-three, are pretty nearly equally distributed over the Old World.

1. Crioceris lafertei.

Crioceris lafertei, Lacord. Mon. p. 548.

Hab. Mexico.

2. Crioceris viridis.

Crioceris viridis, Chevr. Col. Mex. cent. i. no. 20; Lacord. Mon. p. 549; Cand. Mém. Liége, xvi. p. 386, t. 5. f. 3.

Hab. Mexico.

3. Crioceris nitida.

Crioceris nitida, Lacord. Mon. p. 550.

Hab. Mexico.

4. Crioceris alternans.

Crioceris alternans, Lacord. Mon. p. 551; Klug, Dej. Cat. 3rd ed. p. 385.

Hab. Mexico.

5. Crioceris costulata.

Crioceris costulata, Lacord. Mon. p. 551.

Hab. Mexico.

6. Crioceris indigacea.

Crioceris indigacea, Lacord. Mon. p. 552.

Hab. Mexico.

7. Crioceris lazulina.

Crioceris lazulina, Lacord. Mon. p. 553.

Hab. Mexico.

8. Crioceris smaragdina.

Crioceris smaragdina, Lacord. Mon. p. 554.

Hab. Mexico; Guatemala, Zapote (*Champion*).

Three specimens of this insect were sent by Mr. Champion, one of which agrees in

all respects with Lacordaire's description; the other two, however, show some differences in the sculpturing of the thorax, which is not smooth as in the typical species, but finely transversely wrinkled; the femora also are much less robust and shorter than those of *C. smaragdina*. As these, however, are the only differences between the specimens, I am inclined to regard the two aberrant forms as the females.

9. **Crioceris gemmans.**

Crioceris gemmans, Guér. Ic. Règn. Anim. iii. p. 261; Lacord. Mon. p. 554.
Crioceris superba, Dej. Cat. 3rd ed.

Hab. MEXICO.

10. **Crioceris nullicedo.**

Crioceris nullicedo, Lacord. Mon. p. 556.

Hab. MEXICO; GUATEMALA, Zapote (*Champion*); COSTA RICA, R. Sucio (*Rogers*).

Seems to be a rather common species in Guatemala, to judge by the many specimens received from there.

Var. **callizona.**

Crioceris callizona, Clark, Cat. Phyt. App. p. 64.

Hab. MEXICO; GUATEMALA, Zapote (*Champion*); COSTA RICA.

Although this insect is considered by Clark a distinct species, I believe it to be only a colour variety of *C. nullicedo*. It has been sent rather frequently in company with and from the same locality as *C. nullicedo*, from which it does not differ except in coloration, being violaceous instead of green, and in having the elytral bands only indicated. Clark gives as his reason for considering it a distinct species, because the head of *C. nullicedo* is smooth or impunctate, agreeing with Lacordaire's description, while in Clark's species the same part is punctured. I find that all the true *C. nullicedo* are sparingly but distinctly punctured, as is the case with *C. gemmans*, also described by Lacordaire as having a smooth head. Clark's description was drawn from a single specimen. The thorax is also rather variable in the specimens before me, and the hinder femora differ according to the sex; moreover intermediate forms have come under my notice, and therefore I cannot admit *C. callizona* as a good species.

11. **Crioceris intermedia.** (Tab. I. fig. 16.)

Metallic green; abdomen more or less fulvous; elytra with two broad transverse copper-coloured bands, one before, the other behind the middle.
Var. The anterior elytral band sending off a branch of the same colour to the base of the elytra.
Length 5 lines.

Hab. NICARAGUA, Chontales (*Belt*); COSTA RICA (*v. Patten*).

This species seems to be intermediate between *C. gemmans* and *C. nullicedo*; it is

closely allied to the latter, but differs in the following points:—The elytral bands are as broad as in *C. gemmans*, while the punctuation of the elytra is equally strong as in this latter species: moreover the colour of the abdomen is always metallic green in *C. nullicedo*; in the species before me, as well as in *C. gemmans*, it is stained with fulvous. The thorax in *C. gemmans* is much more transverse and the lateral grooves obsolete, while in *C. intermedia* and *C. nullicedo* they are strongly impressed; the present species is also devoid of the coppery patches which adorn the shoulders, head, and legs of *C. gemmans*. These differences are too marked and constant to admit of the species being considered a variety of either *C. gemmans* or *C. nullicedo*.

Received from the above localities in numerous specimens.

12. **Crioceris sallæi.** (Tab. I. fig. 15.)

Crioceris sallei, Baly, Journ. of Entom. i. 1861, p. 195.

Hab. MEXICO, Oaxaca.

13. **Crioceris scabrosa.** (Tab. I. fig. 17.)

Crioceris scabrosa, Baly, Ann. & Mag. Nat. Hist. ser. 3, vol. xvi. p. 153.

Hab. MEXICO.

MEGASCELIS.

Megascelis, Latreille, Cuv. Règn. Anim. i. p. 138 (1829).

Although about ninety species of this genus are known, but few have been described from Central America, the great majority having been found in South America, and one species in Honolulu. On account of their similarity of coloration, these insects are very difficult to determine; and even the best description cannot always give a clear idea of the species, which are very variable amongst themselves, so that a good many specimens are required in order to come to certain conclusions as regards their specific distinctions.

1. **Megascelis dilecta.**

Megascelis dilecta, Clark, Cat. Phyt. App. p. 8.

Hab. MEXICO; GUATEMALA, Dueñas, Capetillo (*Champion*).

The specimens from Guatemala agree very nearly with Clark's type, contained in the collection of the British Museum. The insect is of a bright grass-green above; the head and thorax are very deeply and closely punctured; the elytral suture is but very narrowly fuscous; the antennæ have their first four joints testaceous, the rest piceous; and the breast is metallic green. In the type the antennæ are testaceous, stained with fuscous, the whole underside is testaceous, and the suture of the elytra is a little more distinctly purplish-coloured.

2. **Megascelis humeronotata.**

Megascelis humeronotata, Clark, Cat. Phyt. App. 1865, p. 19.

Hab. MEXICO.

3. **Megascelis affinis.**

Megascelis affinis, Lacord. Mon. p. 289[1].

Hab. GUATEMALA, Capetillo (*Champion*).—COLOMBIA [1].

A single specimen received from Guatemala does not much differ from Lacordaire's description; but the underside is metallic green, changing to blue on the abdomen, the latter having the last segment testaceous, which, however, is also the case with *M. ærea,* Lacord., an allied species. The thorax of the present species is distinctly transversely strigate-rugose throughout, which principally distinguishes it from *M. ærea.*

4. **Megascelis vittata.**

Megascelis vittata, Fabr. Syst. El. i. p. 477; Illig. Mag. vi. p. 179; Lacord. Mon. p. 271.

Hab. GUATEMALA, Zapote (*Champion*).—NORTHERN BRAZIL, Para.

The specimens from Guatemala are rather light-coloured, the sutural purplish vittæ of the elytra occupying the first three striæ, while the marginal ones are very narrow and obsolete; the elytra are covered with fine but distinct light-yellowish pubescence.

5. **Megascelis purpureicollis.** (Tab. I. fig. 2.)

Megascelis purpureicollis, Jacoby, P. Z. S. 1877, p. 511.

Hab. NICARAGUA, Chontales (*Janson*).

In the original description the size of the insect is given as three lines; it ought to have been, however, four lines. The principal difference from other similarly coloured species, as regards the elytra, is to be found in the light coppery colour of the head and thorax and the thick yellowish pubescence covering these parts.

6. **Megascelis viridipallens.**

Megascelis viridipallens, Clark, Cat. Phyt. App. p. 4[1].

Hab. GUATEMALA, Zapote (*Champion*).—BRAZIL [1].

I can but refer the Guatemalan specimens to Clark's species, the type of which is in the British Museum, although the colour is slightly different, the elytra being more of a testaceous hue, while the shoulders and lateral margins only are brilliant pale green.

7. Megascelis stratiotica.

Megascelis stratiotica, Lacord. Mon. p. 261 [1].

Hab. GUATEMALA, Capetillo (*Champion*).—COLOMBIA [1].

The strong triangular tooth near the apex of the posterior femora distinguishes this species from any other. The only specimen from Guatemala agrees very nearly with the description of Lacordaire; but the elytra in the specimen before me are more bronze-coloured than violet, as in the type, and covered with rather long golden-yellowish pubescence, while Lacordaire describes his species as possessing very short whitish hairs. The femoral tooth is very strongly developed. In the absence of more specimens I feel scarcely justified in describing it as new.

8. Megascelis smaragdula.

Megascelis smaragdula, Lacord. Mon. p. 268.

Hab. MEXICO.

Fam. MEGALOPODIDÆ.

Megalopidæ, Lacordaire, Mém. Soc. Liége, iii. p. 609 (1845).

This family contains eight genera, of which two have representatives in Central America, the others being either exclusively South-American or belonging to the Old World.

MASTOSTETHUS.

Mastostethus, Lacordaire, Mém. Soc. Liége, iii. p. 614 (1845).

The number of species at present known as inhabiting Central America amounts to eighteen, more than sixty having been described from South America.

1. Mastostethus balteatus.

Mastostethus balteatus, Klug, Jahrb. Ins. p. 219; Lacord. Mon. p. 616.

Hab. MEXICO, Oaxaca.

According to Lacordaire the thorax is scarcely visibly and the elytra finely punctate. In the specimen before me, also from Mexico, I find the thorax and the base of the head very distinctly punctured, the former having a smooth median space from the base to the apex; the elytra are closely and rather deeply punctate to the apex, not diminishing there in depth of punctuation, as Lacordaire says; the black band extends from below the base nearly to the apex, in fact surrounding two transverse rufous spots at the end of the elytra. These differences would be quite sufficient for considering it a distinct species if I had more specimens to compare; but as all other characters agree with Lacordaire's type, and the insect has been recognized and determined by no less an authority than Mr. Baly, it must be regarded as a variety more strongly sculptured than the original insect.

2. **Mastostethus nigrocinctus.**

Megalopus nigrocinctus, Chevr. Col. Mex. cent. i. no. 77[1]; Lacord. Mon. p. 617.
Megalopus variabilis, Dej. Cat. 3rd ed. p. 385.

Hab. MEXICO, Almolonga (*Höge*), Cordova[1]; GUATEMALA, Zapote (*Champion*); NICARAGUA, Chontales (*Belt*).

Lacordaire has enumerated six varieties of this species. Amongst the specimens from Guatemala a good many have the elytral black band reduced to four small transversely placed spots, while in others even these are entirely wanting. This species may be best distinguished from *M. balteatus* by the much more distant and also finer punctuation of the elytra, which is constant in the numerous specimens I have examined.

3. **Mastostethus cingulatus.**

Mastostethus cingulatus, Lacord. Mon. p. 618.

Hab. MEXICO.

4. **Mastostethus bilobus.**

Mastostethus bilobus, Lacord. Mon. p. 619.

Hab. MEXICO, Tabasco; BRITISH HONDURAS, R. Sarstoon (*Blancaneaux*); GUATEMALA, Panima in Vera Paz (*Champion*).

The red underside, head, and margin of the thorax are the principal characters which distinguish this species from *M. nigrocinctus.* The colour of the legs varies from black to rufous. One specimen, from Vera Paz, is, with the exception of the black elytral marks, entirely of a rufo-testaceous colour.

5. **Mastostethus duplocinctus.**

Mastostethus duplocinctus, Clark, Cat. Phyt. App. p. 71.

Hab. MEXICO.

6. **Mastostethus tricinctus.**

Mastostethus tricinctus, Lacord. Mon. p. 626.

Hab. MEXICO.—COLOMBIA.

7. **Mastostethus fraternus.** (Tab. II. fig. 11.)

Mastostethus fraternus, Baly, Cist. Ent. ii. p. 128[1].

Hab. NICARAGUA, Chontales (*Belt*).—BRAZIL[1].

The Nicaraguan specimens before me agree in every respect with the Brazilian type. Mr. Baly has pointed out the difference between this species and *M. bicolor.* I may further add that the anterior margin of the black part of the elytra is rather

convex in the present species, while it is concave in *M. bicolor*. The extreme apex of the tibiæ and all the tarsi are black.

8. **Mastostethus salvini.** (Tab. I. fig. 18.)

Mastostethus salvini, Jacoby, P. Z. S. 1878, p. 983.

Hab. Costa Rica, Caché (*Rogers*).

Testaceous, sides of the breast and the upper part of the head shining black; thorax rufous; elytra light testaceous, a large semiquadrate patch from the base to the middle of each elytron, and a broad transverse fascia behind the middle, common to both elytra, black.

Length $4\frac{1}{2}$ lines.

The pattern of the elytra in this species is different from that of any other known to me, the black portion being divided by a narrow triangle of testaceous, two arms of which extend across the disk, the other along the suture to the base.

9. **Mastostethus sexplagiatus.** (Tab. I. fig. 24.)

Mastostethus sexplagiatus, Lacord. Mon. p. 658[1].

Hab. Mexico[1]; Guatemala, Zapote (*Champion*).

Specimens from the last locality belong to var. B of Lacordaire, the thorax being entirely black or narrowly margined with testaceous.

10. **Mastostethus rubricollis.** (Tab. I. fig. 20.)

Mastostethus rubricollis, Chevr. Col. Mex. cent. i. 1834; Lacord. Mon. p. 659.

Hab. Mexico.

To Lacordaire's description I may add that the black transverse band across the disk of the elytra is nearly straight, and not oblique, as in the preceding species, while it is connected with the black apex by a narrow line of the same colour at the lateral margin.

11. **Mastostethus championi.** (Tab. II. fig. 12.)

Elongate, parallel, testaceous; head and thorax fulvous; antennæ, tibiæ, and tarsi black; elytra pale testaceous, a transverse narrow band at the base, another broader one behind the middle and the apex, black.

Length $4\frac{1}{4}$ lines.

Head closely and rather deeply punctate near the inner margination of the eyes, more distantly at the vertex; apex of the mandibulæ black; thorax of usual shape, the posterior margin nearly straight, surface with an oblique short groove on each side near the anterior and posterior margins, fulvous, covered with very distinct but remotely-placed punctures; middle of the disk with a more or less distinct black spot; scutellum fulvous; elytra parallel, rather deeply and closely punctate at their anterior half, finer and more distantly towards the apex, of a light testaceous colour with a transverse black band at the base not quite touching the lateral margin and slightly narrowed towards the suture; another broader band is placed behind the middle, and, extending to the apex along the sutural and lateral margin, surrounds two oval spots of the ground-colour; underside and legs light fulvous; tibiæ and tarsi black.

Hab. GUATEMALA, Purulá (*Champion*).

This species is not unlike *M. rubricollis*, but is broader and distinguished by the fulvous head, the colour of the tibiæ, and the shape of the elytral bands, the middle one of the present species being more straight and not obliquely cut, as is the case with *M. rubricollis*; the underside also in the latter insect differs in colour.

12. **Mastostethus stålii.**

Mastostethus stålii, Baly, Journ. Ent. i. p. 282, t. 13. f. 4.

Hab. MEXICO.

In the type before me, as well as in the specimen in my collection, the thorax is very finely punctate, the punctures being visible only under a strong lens, while the punctuation of the elytra is very distinct.

13. **Mastostethus vicinus.**

Mastostethus vicinus, Lacord. Mon. p. 660.

Hab. MEXICO.

The shape of the elytral bands principally distinguishes this species from the preceding one.

14. **Mastostethus rogersi.** (Tab. I. fig. 23.)

Head dark rufous, distantly punctured at the base, more closely round the inner margin of the eyes; antennæ black, the base and underside of the first joint rufous; thorax coloured like the head, very remotely punctate; elytra slightly narrowed behind, distinctly and rather closely punctate, testaceous, a triangular patch at the base of elytron, and a broad band behind the middle, the anterior margin of which is straight, the posterior one bilobed, black; breast and sides of the tibiæ piceous; all other parts below rufous; posterior femora with a distinct triangular tooth.

Length 4 lines.

Hab. COSTA RICA, Caché (*Rogers*).

15. **Mastostethus chontalensis.** (Tab. I. fig. 21.)

Testaceous; base of the head, a transverse band at the thorax, two others on the elytra (one at the base, the other below the middle), and the breast and tibiæ black.

Length $4\frac{1}{4}$ lines.

Head rather closely punctured round the eyes, black from the base to the middle of the eyes, lower part of face testaceous; antennæ black, sides of the apical joints testaceous; thorax with a few punctures at the disk, testaceous, a broad transverse black band occupies the surface without extending to either margin; this band is distinctly narrowed in the middle, each end being widened posteriorly as well; scutellum black; elytra very remotely but rather deeply punctate, more finely so towards the apex, their marking being identical with those of *rogersi*, but the basal band is wider and the posterior one perfectly straight and not bilobed at its hind margin; underside and the femora testaceous; breast and tibiæ black.

Hab. NICARAGUA, Chontales (*Belt*).

16. **Mastostethus versicolor.**

Mastostethus versicolor, Lacord. Mon. p. 662.

Hab. Mexico.

17. **Mastostethus phaleratus.**

Mastostethus phaleratus, Klug, Jahrb. Ins. p. 221 ; Lacord. Mon. p. 663.
Mastostethus dohrnii, Baly, Journ. Ent. i. p. 281, t. 13. f. 5.

Hab. Mexico, Oaxaca ; Costa Rica, Caché (*Rogers*).

As will be seen by the above synonyms, I have united Mr. Baly's species with that of Klug; from Lacordaire's description I am absolutely unable to distinguish them. Curious mistakes, however, seem to have taken place in regard to this insect, whose elytra are described by Mr. Baly as "clothed with very short suberect hairs;" in the type before me I am unable, even with the strongest glass, to discover any hairs. In the catalogue of Gemminger and von Harold, Mr. Baly's species is classified in the genus *Agathomerus*, no doubt on account of the description in regard to the pubescence of the elytra; while Mr. Baly himself has described it as belonging to *Mastostethus.* In every respect the insect agrees with the description in Lacordaire's Monograph.

About twelve specimens have been collected by Mr. Rogers; and they all agree perfectly with the type, and show no trace of hairs on the elytra. It is a true *Mastostethus.*

18. **Mastostethus hieroglyphicus.**

Mastostethus hieroglyphicus, Klug, Jahrb. Ins. p. 222; Lacord. Mon. p. 663.

Hab. Mexico.

19. **Mastostethus novemmaculatus.** (Tab. I. fig. 19.)

Mastostethus novemmaculatus, Klug, Jahrb. Ins. p. 211; Chevr. Col. Mex. Cent. ii.; Lacord. Mon. p. 668.

Hab. Mexico.

The antennæ of this species (the colour of which Lacordaire could not give, on account of his specimen only possessing one joint) are entirely rufous, and slightly longer than the thorax.

20. **Mastostethus placidus.** (Tab. I. fig. 22.)

Mastostethus placidus, Baly, Cist. Ent. i. p. 127.

Hab. Mexico.

21. **Mastostethus lavatus.**

Mastostethus lavatus, Baly, Journ. Ent. i. p. 281, t. 13. f. 6.

Hab. Mexico, Oaxaca.

The remarks made in regard to *M. phaleratus* apply to the present species. Mr. Baly has rightly described it as belonging to *Mastostethus*, but described the elytra as being indistinctly pubescent, on account of which it is included in Gemminger's Catalogue under the genus *Agathomerus*. Except at the head and near the extreme lateral margins of the elytra, I am quite unable to discover any hair.

22. **Mastostethus nigrofasciatus.** (Tab. II. fig. 25.)

Elongate, parallel, fulvous; antennæ, a spot at the vertex, two at the thorax, scutellum, a transverse band across the elytra, and the base of the femora black.

Length 4½ lines.

Head distinctly punctured in front of the eyes; mandibulæ and a longitudinal mark at the vertex black; thorax with all the angles acute, the posterior margin cut obliquely at each side; surface scarcely visibly punctate even with a strong lens, fulvous, a spot at each side on the disk black; scutellum of the same colour; elytra subdepressed, parallel, distinctly but not closely punctured, fulvous, with a perfectly straight narrow band from one side across the middle of the disk to the other, and extending to the lateral margins, black; underside and the legs also fulvous; a spot at the sides of the anterior coxæ, another at the mesothorax, the base of the femora and the apex of the tibiæ, together with the tarsi, black.

Hab. GUATEMALA, Sabo, Vera Paz (*Champion*).

The only species the present one somewhat resembles is *M. zonatus*, Klug; it is, however, perfectly distinct from the latter, as the head is fulvous, the antennæ entirely black, and other differences in colour show themselves in the present species.

AGATHOMERUS.

Agathomerus, Lacordaire, Mém. Liège, iii. p. 673 (1845).

The insects belonging to this genus are distinguished from those of the preceding in having the metasternum of normal shape and not produced and compressed; the elytra are more or less pubescent. Five species are known from Central America; the others, amounting to thirty, are inhabitants of South America.

1. **Agathomerus pulcher.**

Agathomerus pulcher, Lacord. Mon. p. 675.

Hab. MEXICO.

2. **Agathomerus rufus.**

Megalopus rufus, Klug, Jahrb. Ins. p. 213; Lacord. Mon. p. 694.
Megalopus lateritius, Dej. Cat. 3rd ed. p. 384.

Hab. MEXICO.

3. **Agathomerus dubiosus.**

Agathomerus dubiosus, Jacoby, P. Z. S. 1876, p. 808.

Hab. MEXICO.

To be distinguished from *A. rufus* by the black underside, femora, and the scutellum. The knees, tibiæ, and tarsi are rufous; there is also a short black spot at the middle of the head; in other respects this species resembles the preceding.

4. Agathomerus rubrinotatus.

Agathomerus rubrinotatus, Clark, Cat. Phys. App. p. 83.

Hab. Mexico.

5. Agathomerus sallæi.

Agathomerus sallei, Baly, Trans. Ent. Soc. ser. v. p. 153.

Hab. Mexico, San Andres Tuxtla (*Sallé*).

6. Agathomerus atripennis.

Elongate, parallel; testaceous below; head and thorax rufous, the former with one, the latter with two black spots; elytra deeply and closely punctured, pubescent, black, the extreme lateral margin and the apex flavous.

Length 4 lines.

Head coarsely punctured at the sides, more sparingly at the middle, rufous, with a large central irregular-shaped spot; antennæ entirely black, the first four joints shining, the rest closely pubescent and opaque; thorax convex, about one-half broader than long; surface glabrous, shining, with a few but distinct punctures, rufous, the disk with two elongate black spots; scutellum rufous; elytra parallel, slightly depressed below the base, deeply and rather closely punctured, covered with light hairs; the interstices, especially towards the suture, irregularly transversely wrinkled; the entire surface black and shining, the extreme lateral margin and the apex of each elytron light yellow; the breast and legs rufous; tibiæ and the abdomen testaceous; tarsi black.

Hab. Mexico, Oaxaca (*Sallé*).

7. Agathomerus affinis.

Rufous below; lower part of the face and the antennæ testaceous; head black; thorax obscure testaceous, with two black spots; elytra coarsely but distantly punctured, black, the extreme lateral margin and the apex broadly flavous.

Length $3\frac{2}{3}$ lines.

Head punctured at the sides and very sparingly across the middle, the rest smooth, black, shining; lower part of face testaceous, mandibulæ black; antennæ entirely obscure testaceous; thorax convex, nearly twice as broad as long, the posterior angles not produced; surface entirely impunctate, obscure testaceous, with a large transverse black patch at either side; scutellum flavous, the base piceous; elytra parallel, the disk flattened and distinctly depressed below the base; surface with coarse but not closely approached punctures, black, the extreme margin widened at the apex into a triangular broad space, flavous; underside and legs as in the preceding species.

Hab. Mexico, Playa Vicente (*Sallé*).

Although closely allied to *A. atripennis*, it is impossible to consider the present insect a variety of that species; the colour of the head and of the antennæ, and especially the much less close punctuation of the elytra, separate it; the thorax is also somewhat differently shaped and without punctuation; the tarsi, in the only specimen before me, are unfortunately wanting.

MEGALOPUS.

Megalopus, Fabricius, Syst. El. ii. p. 367.

Up to the present time no species belonging to this genus has been recorded from Central America, all of them inhabiting South America.

1. **Megalopus inscriptus.**

Megalopus inscriptus, Klug, Ent. Mon. p. 61, t. 4. f. 6; Lacord. Mon. p. 709[1]; Dej. Cat. iii. p. 385.

Hab. MEXICO, Panistlahuca, Cordova (*Sallé*).—CAYENNE[1].

The species agrees perfectly with the typical description, and may be recognized by the distinct M-shaped black mark on the thorax; the basal part of the elytra is of a lighter colour than the rest and limited obliquely by the darker portion; the female is much smaller, and the posterior thighs do not extend beyond the abdomen, which is the case to a great extent in the male insect. I believe that this species is identical or very closely allied to *M. sexvittatus*, Bates.

Fam. CLYTHRIDÆ.

Subfam. *CLYTHRINÆ*.

This subfamily is not very numerously represented in Central America. Of the twelve genera belonging to it, four only are found in the subregion, each with a few species, as far as our present knowledge extends.

TITUBŒA.

Titubœa, Lacordaire, Mém. Liége, v. p. 141 (1848).

This genus has been split up by Lacordaire into six subgenera; but their characters are not clearly defined and certain, and in the Munich Catalogue they are all united under the generic name of *Titubœa*. There are five Central-American species.

1. **Titubœa humerigera.**

Anomœa humerigera, Lacord. Mon. p. 140[1].

Hab. MEXICO[1], La Parada (*Sallé*).

A single female from La Parada differs from the type in having an additional small red spot near the apex and close to the suture of each elytron.

2. Titubœa mutabilis.

Anomœa mutabilis, Lacord. Mon. p. 137.

Hab. North America.—Mexico.—Colombia.

This species is regarded by Lacordaire as a doubtful one. The male insect may be recognized by the transverse piceous band of the elytra; the female is identical with that of *T. rufifrons.*

3. Titubœa rufifrons.

Anomœa rufifrons, Lacord. Mon. p. 135[1]; Chevr. Dej. Cat. 3rd ed. p. 443.

Hab. Mexico[1], Jalapa (*Höge*).

The thorax of this species is impunctate, and the vertex of the head almost smooth or very finely strigose. The specimens collected by Mr. Höge belong to var. *c* of Lacordaire, and vary in size from 4 to 4½ lines.

4. Titubœa sphacelata.

Anomœa sphacelata, Lacord. Mon. p. 138.

Hab. Mexico.

I possess three specimens of this species, which I consider to be varieties of Lacordaire's type; they differ in having the thorax punctate as well as the elytra, and in the want of the longitudinal stripe on the latter. The head of this species is strigose throughout; it is, moreover, at first sight to be distinguished by the black semilunate spot at each side of the thorax.

5. Titubœa sanguinipennis. (*Anomœa sanguinipennis,* Tab. II. figg. 16 & 17.)

Anomœa sanguinipennis, Lacord. Mon. p. 131[1].

Hab. Mexico[1]; Guatemala, near the city (*Salvin*), Zapote (*Champion*); Nicaragua, Chontales (*Belt*); Costa Rica (*Rogers*).

Male. Head distinctly strigose at the vertex, with a triangular fovea in the middle; lower part of face punctate-rugose and finely strigose, testaceous; vertex black or marked more or less with rufous; apex of jaws piceous; antennæ black, four basal joints testaceous; thorax narrowly transverse, as wide as the base of the elytra, the posterior margin distinctly sinuate at each side, the anterior one straight, surface subdepressed, finely punctate near the base, the anterior portion impunctate, light testaceous, with a broad transverse black band near the base which does not quite extend to the lateral margins; elytra cylindrical, very minutely punctured, opaque, testaceous, a round spot below the base near the sutural margin, and a narrow, sinuate, transverse band below the middle, black; underside black, densely covered with silvery pubescence; femora testaceous, streaked above with black, as well as the posterior tibiæ, the anterior ones and the tarsi entirely black, first joint of the latter as long as the two following united.

Length 3½–4½ lines.

Var. *a.*

The transverse band at the thorax interrupted or reduced to four small black spots.

Var. *b*.

Thorax entirely black; elytra rufous, the anterior spot extending in the shape of a transverse narrow band to the shoulders.

There can be no doubt that this is the male of *T. sanguinipennis*. Numerous females have been received from Guatemala, and amongst them four males; but I find that it is the latter which has the first joint of the tarsi equal in length to the two following ones, and not the female, as stated by Lacordaire, in which the tarsal joints are nearly of equal length.

The female is subject to the same variations in colouring, and differs in the thorax being less broad, and in having a distinct deep fovea at the last abdominal segment. The figures are taken from Guatemala specimens.

GYNANDROPHTHALMA.

Gynandrophthalma, Lacordaire, Mém. Liège, v. p. 256 (1848).

Nine American species have been enumerated by Lacordaire, of which six are peculiar to Central America. The other species of the genus, amounting to over seventy, inhabit the Old World.

1. **Gynandrophthalma bisquadripunctata.**

Gynandrophthalma bisquadripunctata, Chevr. Col. Mex. Cent. ii.; Lacord. Mon. p. 260[1].

Hab. MEXICO[1], Orizaba, Playa Vicente (*Sallé*).

2. **Gynandrophthalma agilis.** (Tab. II. fig. 22.)

Gynandrophthalma agilis, Lacord. Mon. p. 261[1]; Chevr. Dej. Cat. 3rd ed. p. 443.

Hab. MEXICO[1]; GUATEMALA, Capetillo (*Champion*).

This species is very coarsely rugose-punctate at the thorax and the elytra; the former is black, with the anterior and lateral margins fulvous, the latter fulvous with two transverse black bands. The figure represents a specimen from Guatemala.

3. **Gynandrophthalma bimaculata.**

Oblong ovate, widened posteriorly; black, pubescent; thorax finely, elytra deeply and closely punctured, black, each elytron with a triangular large red patch from the shoulder to the middle.

Length 2½ lines.

Female. Head rugose punctate and pubescent, with a shallow fovea between the eyes; labrum fulvous; antennæ as long as the thorax, black, the second and third joints fulvous; thorax of exactly the same shape as that of *G. agilis*, also of the same punctuation and colour; elytra closely and, principally near the base, deeply punctured, black, finely pubescent, the extreme lateral margin and a large spot from there to the suture bright red; the anterior margin of this spot is cut obliquely, the posterior one straight, but the humeral callus is not enveloped and the suture not touched; underside and legs black, closely silvery pubescent; tibiæ rufous.

Hab. MEXICO, Peras (*Sallé*).

From *G. agilis*, to which this species is closely allied, it is distinguished by the colour and shape of the elytral spot, which leaves the base itself black, while this part is constantly rufous in *G. agilis*.

4. **Gynandrophthalma aviculus.** (Tab. II. fig. 18.)

Gynandrophthalma aviculus, Lacord. Mon. p. 263[1].

Hab. GUATEMALA[1], Zapote (*Champion*).

A species differing from *G. agilis* by its smooth and shining thorax and elytra.

5. **Gynandrophthalma leucognatha.**

Gynandrophthalma leucognatha, Lacord. Mon. p. 265.

Hab. MEXICO.

6. **Gynandrophthalma quadripartita.**

Gynandrophthalma quadripartita, Lacord. Mon. p. 264[1].

Hab. MEXICO[1], Guanajuato (*Mus. Jacoby*), Yolotepec, La Parada (*Sallé*).

A variety from Guanajuato is before me, which has the elytra uniformly fulvous, and the suture and lateral margin, as well as a small spot at the shoulder, black; the other marks are absent. The whole difference between this species and *G. leucognatha* seems to be the shining green markings of the elytra, which are black in the other species, their shape being variable. This variety may possibly belong to a different species. Lacodaire's type of *G. quadripartita* was a female. Several males which I refer to this species are before me, but they do not differ materially.

7. **Gynandrophthalma spectabilis.**

Gynandrophthalma spectabilis, Lacord. Mon. p. 262.

Hab. MEXICO.

Subfam. *MEGALOSTOMINÆ.*

This subfamily, containing five genera, is restricted to the New World. Four of these are represented in Central America.

MEGALOSTOMIS.

Megalostomis, Lacordaire, Mém. Liège, v. p. 519 (1848).

Thirty-four species of this fine genus are known, but six only from Central America. The genus has been divided by Lacordaire into three subgenera; but their characters

are rather variable and ill-defined, and they have consequently been united under the above generic name by Gemminger and v. Harold in their Catalogue.

1. **Megalostomis splendida.** (Tab. II. fig. 15.)

Minturnia splendida, Lacord. Mon. p. 522[1].

Hab. MEXICO, Oaxaca[1]; GUATEMALA, San Gerónimo (*Champion*).

Of this fine insect three specimens were collected by Mr. Champion, which differ in coloration from those described by Lacordaire: the elytra and thorax are greenish æneous; and the metallic-green colour and bands of the elytra are changed to coppery red. One specimen measures 5 lines in length, but does not differ in other respects. The plate represents a Guatemalan specimen.

2. **Megalostomis pyropyga.**

Minturnia pyropyga, Lacord. Mon. p. 524[1].

Hab. MEXICO[1], Almolonga (*Höge*); GUATEMALA, Dueñas (*Champion*).

This insect seems to be not uncommon in the neighbourhood of Guatemala.

3. **Megalostomis notabilis.**

Minturnia notabilis, Lacord. Mon. p. 525.

Hab. MEXICO.

4. **Megalostomis dimidiata.** (Tab. II. fig. 14.)

Minturnia dimidiata, Lacord. Mon. p. 526[1].

Megalostomis dimidiata, Klug, Dej. Cat. p. 441.

Hab. MEXICO[1], Jalapa (*Höge*); GUATEMALA, San Gerónimo (*Champion*); NICARAGUA, Chontales (*Belt*).

This is a very variable species in regard to coloration, and is closely allied to the preceding. It varies in size from 3 to 5 lines; and the elytra are distinctly covered with whitish pubescence; the black portion of the elytra never extends so far upwards as in *M. notabilis.*

The specimen represented on the Plate is a variety from Jalapa.

5. **Megalostomis tomentosa.**

Oblong, cylindrical; black, closely pubescent; elytra finely transversely rugose, their anterior third fulvous. Length 3–3½ lines.

Head covered with long and dense pubescence; anterior angle of epistome semicircular; antennæ much shorter than the thorax, the eighth to the eleventh joints transverse and serrate, black, pubescent; thorax twice as broad as long, subcylindrical, the sides deflexed and rounded, surface very finely punctured and pubescent, black; elytra cylindrical, slightly narrowed towards the apex, finely transversely wrinkled and covered

with fine white hairs, the first third of their length fulvous, a spot at the shoulder and the rest of the surface black; pygidium with an elongate central line devoid of hairs.

Hab. Mexico, Etla, Capulalpam (*Sallé*).

This species represents *M. dimidiata* in miniature, but is at once distinguished from it and from *M. notabilis* by its much smaller size, its short antennæ, and the elongate nude space of the pygidium, which in *M. notabilis* is represented by a conical protuberance. The antennæ in the present species do not extend much further than to the commencement of the thorax. The female has the usual round fovea on the last segment, but does not differ in other respects.

6. **Megalostomis flavipennis.** (Tab. II. fig. 13.)

♀. Elongate, subcylindric, black; thorax minutely, elytra more deeply punctured, finely pubescent, flavous-testaceous.

Length 5 lines.

Lower part of the head rugose-punctate, with a very distinct longitudinal median ridge, extending from the upper margin of the eyes to the clypeus; a smaller ridge runs parallel with the inner orbit of the eyes; vertex more distantly but deeply punctate; antennæ black, reaching to the base of the thorax, the latter with the posterior margin straight at each side, broadly lobed in the middle, the lateral margins very slightly rounded; surface with an obsolete oblique depression from the anterior angles towards the middle of the disk, distinctly covered with whitish hairs at the sides; the disk itself rather closely and finely punctured; scutellum also finely punctate and pubescent; elytra convex, a little narrowed towards the apex, irregularly and more strongly punctured than the thorax, and sparingly covered with yellowish hairs; underside and legs black, covered with fine pubescence.

Hab. Nicaragua, Chontales (*Belt*).

A single female was obtained by Mr. Belt in Nicaragua; it differs from its allies in the uniform light yellow colour of the elytra.

COSCINOPTERA.

Coscinoptera, Lacordaire, Mém. Liège, v. p. 511 (1848).

Principally found in California and Colombia.

1. **Coscinoptera cribrata.**

Coscinoptera cribrata, Lacord. Mon. p. 512[1].

Megalostomis mucida, Say, Bost. Journ. 1837, p. 197.

Hab. Mexico[1]; Guatemala, Capetillo, San Gerónimo (*Champion*).

EURYSCOPA.

Euryscopa, Lacordaire, Mém. Liége, v. p. 493 (1848).

Of the nineteen known species of this genus, four have been found in Central America. From *Coscinoptera*, which they closely resemble in form, they are principally

distinguished by the punctuation of the elytra, which is regularly placed in striæ instead of confusedly arranged.

1. **Euryscopa carnifex.**

Euryscopa carnifex, Lacord. Mon. p. 498.

Hab. MEXICO.

2. **Euryscopa macrophthalma.**

Euryscopa macrophthalma, Lacord. Mon. p. 500.

Hab. MEXICO.

3. **Euryscopa pilatei.** (Tab. II. fig. 20.)

Euryscopa pilatei, Lacord. Mon. p. 504[1].

Hab. NORTH AMERICA, Texas.—MEXICO, Yucatan[1]; GUATEMALA, Capetillo, Dueñas (*Champion*).

This seems to be a common species in Guatemala, to judge by the numerous specimens received; it varies greatly in size, as much as from 2 to 4 lines, and may be recognized from the following species by the elytral fulvous band, which is more slender and of greater extent, and by the fulvous colour of the tibiæ. The figure is that of a specimen from Capetillo.

4. **Euryscopa scapularis.**

Euryscopa scapularis, Lacord. Mon. p. 505.

Hab. MEXICO.

The difference between this and the preceding species is but slight; the legs in the present one are blackish, and the fulvous spots on the elytra more square-shaped.

PROCTOPHANA.

Proctophana, Lacordaire, Mém. Liège, v. p. 490 (1848).

Two species only are included in this genus—one from Colombia, the other from Brazil. The former has also been received from Central America.

1. **Proctophana basalis.**

Proctophana basalis, Lacord. Mon. p. 492[1]; Dej. Cat. 3rd ed. p. 440.

Hab. NICARAGUA, Chontales (*Belt*).—COLOMBIA[1].

The single specimen obtained by Belt does not differ from the Colombian form.

Subfam. *BABINÆ.*

This subfamily is exclusively American, five out of the nine genera being represented also in Central America. The determination of the species is not always easy, as the coloration is almost identical in all of them.

DACHRYS.

Dachrys, Lacordaire, Mém. Liège, v. p. 405 (1848).

More than twenty species of *Dachrys* are known to inhabit the New World; two have been described from Central America, and one from the Cape. The genus resembles *Babia*; but the anterior margin of the thorax is not advanced in the middle, and the general form is more cylindrical and smaller in the present genus.

1. **Dachrys scutellaris.**

Dachrys scutellaris, Lacord. Mon. p. 424.

Hab. MEXICO.

2. **Dachrys bipartita.** (Tab. II. fig. 19.)

Dachrys bipartita, Jacoby, P. Z. S. 1877, p. 511.

Hab. NICARAGUA, Chontales (*Janson*).

The elytra in this species are light fulvous, with a transverse broad black band behind the middle.

BABIA.

Babia, Lacordaire, Mém. Liège, v. p. 424 (1848).

This and the two following genera are found only in the New World, ranging from North to South America. About seventeen species are known, five from Mexico &c.

1. **Babia pudica.**

Babia pudica, Lacord. Mon. p. 425.

Hab. MEXICO.

It requires a long series of specimens of this species, *B. stabilis*, and *B. pulla* to settle their specific value, as they are very variable in shape and sculpture, and I possess intermediate forms which may be classified with either of them. Even the two principal divisions of Lacordaire do not always give a clue to be depended on, as some species have a gradual development of the antennæ in regard to the shape of their joints, which makes it impossible to decide whether they belong to the first

or second division. The punctuation of the head and thorax is equally subject to variation.

2. **Babia magnicollis.**

Babia magnicollis, Lacord. Mon. p. 426[1].

Hab. MEXICO[1], Juquila (*Sallé*).

3. **Babia stabilis.**

Babia stabilis, Lacord. Mon. p. 427; Klug, Dej. Cat. p. 441.

Hab. MEXICO.

4. **Babia pulla.**

Babia pulla, Lacord. Mon. p. 429[1].

Hab. NORTH AMERICA[1].—MEXICO[1]; GUATEMALA, San Gerónimo (*Champion*).

The specimens from Guatemala agree perfectly with Lacordaire's type, and vary in length from $1\frac{1}{2}$ to $2\frac{1}{2}$ lines. The basal fulvous spot of the elytra is very nearly square-shaped, the inner margin slightly oblique and not extending to the suture. The striæ on the elytra are indistinct and intermixed with other punctures; and the thorax and head are very finely punctate.

5. **Babia costalis.**

Babia costalis, Lacord. Mon. p. 430[1]; Forsb. Nov. Act. Ups. viii. p. 271.
Clythra humeralis, Fabr. Syst. El. ii. p. 37; Oliv. Ent. vi. p. 96.

Hab. MEXICO[1].

STEREOMA.

Stereoma, Lacordaire, Mém. Liège, v. p. 437 (1848).

One species only of the twelve described by Lacordaire has been found in Mexico. The others are, with two exceptions, peculiar to Brazil. The enlargement of the tarsi in the male forms the distinctive character of this genus.

1. **Stereoma anchoralis.**

Stereoma anchoralis, Lacord. Mon. p. 441.

Hab. MEXICO.

URODERA.

Urodera, Lacordaire, Mém. Liège, v. p. 449 (1848).

This genus contains more species than any of the preceding genera, twenty-seven having been described by Lacordaire. Mexico is represented by three; the rest are found in South America. The prosternum and the mesosternum are larger, and, the

former especially, more or less distinct, by which the genus is distinguished from *Babia* —although these characters are not always recognizable at first sight, the prosternuum especially being difficult to distinguish on account of its being almost hidden from view by the head.

1. Urodera crucifera.

Urodera crucifera, Lacord. Mon. p. 454[1].
Babia crucifera, Dej. Cat. 3rd ed. p. 441.

Hab. MEXICO[1]; GUATEMALA, San Gerónimo, Dueñas (*Champion*).

The numerous specimens sent by Mr. Champion vary in length from 3 to 4½ lines, and have either the basal fulvous spots of the elytra interrupted by the suture or extending entirely across the disk. As the entire difference between this and the following species lies, according to Lacordaire, in the greater width of the thorax in the former, I must refer all the specimens before me to *U. crucifera*, as the thorax is distinctly broader than long.

2. Urodera hœpfneri.

Urodera hoepfneri, Lacord. Mon. p. 455.

Hab. MEXICO.

3. Urodera godmani.

Urodera godmani, Jacoby, P. Z. S. 1879, p. 775.

Oblong-ovate, black, shining, beneath closely pubescent; head and thorax finely punctured; elytra finely punctate-striate, black, a transverse band at the base, not touching the suture, and the apex rufous. Length 3–4 lines.

Hab. GUATEMALA, Dueñas, Capetillo (*Champion*).

It is not improbable that this species may be but a variety of *U. crucifera*, Lacord. The differences lie in the distinctly punctured thorax, especially visible near the anterior and lateral margins, and in the punctured striæ of the elytra, which are not uneven as is the case, according to Lacordaire, with *U. crucifera*; the interstices also between the striæ are in the present insect very finely punctured.

4. Urodera chevrolati.

Urodera chevrolati, Lacord. Mon. p. 456[1].
Babia chevrolati, Dej. Cat. 3rd ed. p. 441.

Hab. MEXICO[1].

This species is difficult to distinguish from the two preceding ones, as it has some of the characters belonging to each; but the elytral black band is generally much narrower, and, instead of being placed at or before, is situated behind the middle.

SAXINIS.

Saxinis, Lacordaire, Mém. Liège, v. p. 478 (1848).

Four out of the eight described species have been found in Central, the others in North and South America. They are not difficult to distinguish from the former genera, on account of a tranverse basal depression in front of the scutellum, the strong and closer punctuation of the elytra, and the produced lateral lobe of the same.

1. **Saxinis basilaris.**

Saxinis basilaris, Lacord. Mon. p. 481[1].

Hab. Mexico[1], Orizaba (*Sallé*).

2. **Saxinis quadrina.**

Saxinis quadrina, Lacord. Mon. p. 482[1].
Megalostomis mexicana, Dej. Cat. 3rd ed. p. 441.

Hab. Mexico, Oaxaca, Parada (*Sallé*)[1]; Guatemala, near the city (*Salvin*).

From the preceding species, to which the present is closely allied, this may be distinguished by its distinct blue colour, the entirely black antennæ, and by the punctuation of the thorax, which is very close and deep. In *S. basilaris* the thorax is much more finely and on the disk more obsoletely punctured, and the second and third joints of the antennæ are fulvous. *S. propinqua,* Jacoby, is another allied species, in which the thorax is finely and rather remotely punctured: in colour it approaches *S. quadrina*; but the fulvous elytral spot only occupies the humeral callus, and the thorax is differently shaped.

3. **Saxinis saginata.**

Saxinis saginata, Lacord. Mon. p. 483.

Hab. Mexico.

The largest of the genus, specimens varying from black to dark blue; the punctuation of the elytra is distinctly visible with the naked eye.

4. **Saxinis guatemalensis.** (Tab. II. fig. 21.)

Saxinis guatemalensis, Jacoby, P. Z. S. 1876, p. 810.

Hab. Guatemala, near the city (*Salvin*).

In size this species very nearly agrees with *S. saginata*; but the elytra are much less coarsely punctured, and the interstices between their striæ are also finely and closely punctate; the space below the base of the elytra surrounding the scutellum is distinctly raised.

5. Saxinis punctatissima.

Elongate, parallel; bluish-black, closely pubescent below; thorax and elytra opaque, densely punctured; elytra with a subquadrate fulvous spot at the shoulder.

Length 3 lines.

Head densely punctate-rugose; antennæ extending to two-thirds the length of the thorax, black, the second and third joints rufous below; thorax twice as broad as long, the entire surface densely covered with rather elongate punctures of a dark opaque blue; scutellum deeply punctured; elytra slightly narrowed behind in the male, parallel in the female, deeply and closely punctate and partly transversely wrinkled, the interstices here and there obsoletely longitudinally costate; they are of the same colour as the thorax, and have the usual quadrate fulvous spot at the shoulder.

Hab. MEXICO, La Parada, Oaxaca (*Sallé*).

The differences between this species and *S. saginata*, which it resembles closely, lie in the opaque colour of the upper surface, caused by the dense punctuation of this part. In comparing the two insects the difference in this respect is very obvious, there being a distinct gloss of greenish, especially on the thorax, in *S. saginata*, where the punctuation is much less deep and close; the same may be said of the elytra, which are much more closely and more irregularly punctate in the species before us. There are three specimens contained in M. Sallé's collection, which agree perfectly with each other; I believe, therefore, that the species is a good one.

ISCHIOPACHYS.

Ischiopachys, Lacordaire, Mém. Soc. Liége, v. p. 468 (1848).

Ten species belonging to this genus have been made known, one of them (the most variable in coloration) inhabiting North and Central America as well as Colombia. The rest belong to other parts of South America.

1. Ischiopachys proteus.

Ischiopachys proteus, Lacord. Mon. p. 470 [1].

Hab. NORTH AMERICA, California [1].—MEXICO, Almolonga (*Höge*).—COLOMBIA [1].

No less than eight varieties of this species have been described by Lacordaire. The insects sent by Mr. Höge all belong to the dark fulvous variety, which has the apex of the elytra dark blue. From *I. bicolor* and from some of its varieties it differs in the shape of the thorax, which is less convex than in that species. I may add that the base of the elytra in the present insect is not nearly so raised as in *I. bicolor*, where a rather deep transverse depression limits its basal elevation.

Fam. CRYPTOCEPHALIDÆ.

This immensely rich group, of which more than 1200 species are known and described, is distributed over the entire world. The neatness of their shape and the variety of their coloration justify fully the favour they have found amongst collectors. As regards Central America, the proportion to other countries may be put down as one to eighteen; of the 1200 species, about eighty are found in Central America.

MONACHUS.

Monachus, Chevrol. Dej. Cat. 3rd ed. p. 449; Suffrian, Monogr. in Linn. Entom. vi. p. 210 (1852).

This genus, characterized by its small size and peculiar shape, and principally distinguished from *Cryptocephalus* by the short and thickened antennæ, contains about 100 species, of which the great bulk inhabit Tropical America. Central America does not contain more than eleven species; and the larger West-Indian Islands have not furnished us with a single *Monachus.*

1. **Monachus guerini.**

Monachus guerinii, Perbosc, Rev. Zool. 1839, p. 264[1]; Suffr. Linn. Entom. vi. p. 216[2].

Hab. MEXICO, Vera Cruz (*Perbosc*[1]), Jalapa[2]; GUATEMALA, San Gerónimo, city of Guatemala (*Champion*).

This species seems to be not uncommon in the neighbourhood of Guatemala, and is contained in most collections; it is easily recognizable by its bright coloration of red and blue and its comparatively large size. I have seen Suffrian's specimen in the Berlin Museum.

2. **Monachus scaphidioides.**

Monachus scaphidioides, Suffr. Linn. Entom. vi. p. 215.

Black below; above black, opaque, with a slight bluish tint; thorax impunctate, opaque; elytra very finely punctate-striate, the striæ diminishing posteriorly, the two marginal ones distinct in shape of grooves.

Hab. MEXICO, Yucatan; GUATEMALA, San Juan in Vera Paz (*Champion*).

This species is described by Suffrian as blue; all the specimens I have seen, including the type from M. Deyrolle's collection, are black below. It cannot be confounded with the preceding species, on account of the impunctate and black thorax and the abbreviated red elytral band.

3. **Monachus guatemalensis.** (Tab. III. fig. 1.)

Broadly ovate, metallic dark blue; thorax purplish, distinctly punctured; elytra deeply punctate-striate, dark blue, each elytron with an oblique transverse band below the base, not touching the suture.

Length $1\frac{1}{4}$ line.

Head flat, impunctate, dark blue; antennæ robust, each joint gradually widened and thickened towards the apex, blackish-blue, the first two basal joints stained with fulvous below; thorax very convex, much narrowed anteriorly, sides nearly straight, posterior angles acute, surface with two very shallow depres-

sions near the scutellum, distinctly and evenly punctured throughout, of a purplish blue; scutellum smooth; elytra about double the length of the thorax, convex and scarcely narrowed behind, each elytron with ten rows of regular and rather deeply impressed punctures, which, however, are becoming indistinct near the apex, and of which the sixth, seventh, and eighth striæ are interrupted by the humeral callus and closely approached below that place; the colour is rather darker than that of the thorax, and an oblique transverse bright fulvous band extends from the shoulder to a little distance from the suture, where it is also much narrowed; underside and legs dark greenish blue.

The male is of shorter and rounder shape, and the fulvous colour of the elytra of greater width.

Hab. MEXICO, Cordova (*Sallé*); GUATEMALA, Dueñas (*Champion*).

Although this new species is almost identical in regard to its coloration with *M. scaphidioides*, it is easily distinguished by the distinct punctuation of the thorax and the elytra, especially of the latter. In *M. scaphidioides* the thorax is opaque and impunctate. The present species, moreover, is much broader and the thorax much more convex.

4. **Monachus lacertosus.**

Monachus lacertosus, Suffr. Monogr. vi. p. 218[1].

Brick-red, base and a spot at the apex of the elytra, as well as two spots of the thorax, metallic green, the latter finely punctured, the striæ of the elytra diminishing posteriorly with finely wrinkled interstices.

Length 1 line.

Hab. MEXICO[1], Cordova (*Sallé*).

Easily distinguished from *M. guerini* by its small size and the laterally interrupted apical band of the elytra, which does not cover the extreme apex as in the species mentioned. Through Dr. Peters's kindness I have had an opportunity of examining Suffrian's type specimen.

5. **Monachus bimaculatus.** (Tab. III. fig. 2.)

Black, shining; thorax with a transverse furrow near the base; elytra with a broad red basal spot; pygidium and last abdominal segment red.

Length $1\frac{1}{4}$ line.

Head finely and irregularly wrinkled, greenish black; clypeus rather prominent; labrum red; antennæ black, the basal joint red, first joint elongate, much thickened towards the apex, the following three joints not thicker, thence to the apical joints gradually widening; thorax very convex, the anterior portion greatly deflexed, the posterior part much widened; posterior margin distinctly sinuate at each side, its angles acute; surface with a short but distinct groove in front of the scutellum, rest of the surface impunctate and very shining black; elytra deeply striate-punctate from the base to the apex, the interstices slightly convex near the lateral margin, shining black, each elytron with a transverse broad irregularly shaped patch of a light red colour extending from a little below the base to the third sutural striæ and laterally to the extreme margin; pygidium strongly punctured, light fulvous as well as the last abdominal segment; rest of the underside and the legs black.

Hab. GUATEMALA, Zapote (*Champion*); NICARAGUA.

A species allied to *M. basilaris*, Suffr., in regard to coloration, and to *M. stricticollis*, Suffr., in regard to shape; from the first it is distinguished by the distinct punctuation of the elytra, which remains visible to the apex, and from the last by the colour of the pygidium and the underside. *M. basilaris* has the entire abdomen red. A Guatemalan specimen is figured.

6. **Monachus bicruciatus.**

Monachus bicruciatus, Suffr. Monogr. vii. p. 229[1].

Hab. MEXICO[1]; GUATEMALA, near the city (*Salvin*).

A good many specimens of this large and curiously coloured species were found by Mr. Salvin; its size and opaque colour will make it easily recognizable. Suffrian did not know the male insect, of which I possess several: they are not distinguished from the female by any greater gloss of their surface; but the eyes are nearly contiguous, and the hinder thighs extend quite to the end of the elytra, which is not the case in the female. The specimens were taken by Mr. Salvin at an elevation of 5000 feet above the sea.

7. **Monachus anaglypticus.**

Monachus anaglypticus, Suffr. Linn. Entom. vi. p. 214.

Hab. MEXICO, Jalapa; BRITISH HONDURAS, Rio Hondo (*Blancaneaux*).

Through the kindness of Dr. Peters of Berlin I am enabled to compare Suffrian's type with the insect received from Honduras; there is no doubt that the former, as Suffrian suspected, is an immature specimen. The Honduras specimen is uniformly black, with the exception of the first two or three joints of the antennæ and parts of the mouth; in other respects it agrees with the type. Whether Suffrian's species is a really distinct one from *M. saponatus*, Fabr., is somewhat doubtful; and this can only be decided by comparison of numerous specimens. The nearest allied species is *M. ater*, Knoch, which Suffrian himself does not warrant as being really specifically different from *M. saponatus*, Fabr. Yet he has described *M. anaglypticus* from a single immature specimen, and points out that the differences between his species and *M. ater* are extremely slight and few, while *M. ater* is probably identical with *M. saponatus*.

8. **Monachus nigritulus.**

Monachus nigritulus, Bohem. Res. Eugen. p. 158[1]; Suffr. Linn. Entom. xv. p. 86[2].

Hab. BRITISH HONDURAS, Belize (*Blancaneaux*); GUATEMALA, Dueñas, and San Juan, Vera Paz (*Champion*).—BRAZIL[1 2].

Although this species has only been recorded as inhabiting Brazil, where it is rather common, I cannot distinguish the Central-American specimens sufficiently to refer them to another species; the only difference is a stronger punctuation of the elytra, visible more or less distinctly towards the apex. The elytra are dark bluish black, shining; and the whole shape of the insect is broad at the base, but distinctly narrowed towards the apex. It may possibly be another species, as the punctuation in *M. nigritulus* is rather fine, diminishing posteriorly.

9. Monachus semipunctatus.

Below black; head, thorax, and the legs light red; elytra very finely punctate-striate, green or greenish blue.
Length ¾ line.

Head flat, impunctate, eyes rather closely approached and deeply emarginate; antennæ extending to the end of the thorax, black, the first two or three joints flavous; thorax of the same colour, opaque and impunctate; scutellum black, very narrow and pointed at the apex; elytra broad, narrowed behind, the apex of each elytron evenly rounded, the humeral callus very prominent and almost tubercular; surface very finely punctate-striate, the striæ disappearing almost entirely near the apex, the interstices extremely finely wrinkled, of a silky appearance; the colour a light greenish of moderate gloss; underside black, with a slight greenish tint; legs and tarsi reddish.

Hab. GUATEMALA, near the city, Dueñas (*Champion*).

This is another species to be added to the second group of Suffrian's Monograph, which contains several similarly coloured species. The present one, of which nearly a dozen specimens are before me, is distinguished by the minute punctuation of the elytra and the silky appearance of the latter, together with the uniform coloration of the legs. It is closely allied to *M. semicyaneus*, Suffr.

10. Monachus scrobiculatus.

Monachus scrobiculatus, Suffr. Monogr. xv. p. 90[1].

Black-blue; head, base of the antennæ, legs, and the sides of the thorax fulvous, the latter impunctate, opaque; elytra deeply punctate-striate.
Length ¾ line.

Hab. BRITISH HONDURAS, Rio Hondo (*Blancaneaux*).—SURINAM[1].

The specimen before me, from Honduras, does not seem to differ in any way from the description given by Suffrian, except in the colour of the legs, of which the base of the thighs only is fulvous; the antennæ (which were wanting in Suffrian's type) are black, the basal six joints fulvous. Haldeman has given the diagnosis of a similarly coloured species, which he calls *M. aüritus*, and which is found in North America; but his description is too short to decide whether this and Suffrian's species are identical.

11. Monachus sculptilis.

Broadly ovate, black; thorax opaque, minutely punctured; elytra coarsely punctate-striate, bluish black, interstices finely wrinkled.
Length 1¼–1½ line.

Head with a few but distinct punctures, eyes closely approached; antennæ as long as the thorax, black, the first and second joints more or less fulvous; thorax twice as broad as long, finely margined, sides slightly rounded, posterior margin oblique and slightly sinuate at either side, the median lobe short and straight, surface opaque, black, very minutely punctured near the base, with two short but rather deeply impressed rows of punctures in front of the scutellum, the latter narrow, triangular, and pointed; elytra broad, very moderately convex, bluish black, each elytron with ten rows of deep punctures, commencing below the base, and distinctly visible but slightly finer at the apex, the interstices, more especially near the base, finely transversely wrinkled and aciculate, those of the last four rows forming two highly raised costæ from base to apex; underside and legs black.

Hab. MEXICO, Guanajuato (*Sallé*).

A species allied to *M. saponatus*, Fabr., but distinguished by the deep punctuation of the elytra and the minute punctuation of the thorax; the antennæ in *M. saponatus* have their first four joints fulvous; in all the specimens of the present species only the first two are of this colour.

CRYPTOCEPHALUS.

Cryptocephalus, Geoffroy, Hist. Ins. pars 1, 1762, p. 231; Suffrian, Monogr. Entom. vols. ii.–xvi.

More than 800 species are contained in this genus, about forty inhabiting Central America; the species from the latter country, although somewhat closely allied in colour and sculpture to North-American species, yet seem to form a small special group by themselves, not extending to either South or North America with but few exceptions. While the Old World possesses but few species with regular punctured elytra, those of the New World have these parts deeply and regularly punctate-striate; the sexual differences are clearly expressed in the longer antennæ of the male and the deep abdominal groove in the female. Another well-marked sexual character which I do not find mentioned by Suffrian or other authors, is the much greater length of the posterior thighs in the male, which extend to the end of the elytra in all the species I have examined, and enable one to distinguish the sex at first sight.

1. **Cryptocephalus abruptus.**

Cryptocephalus abruptus, Suffr. Monogr. vi. p. 245.

Rufous; thorax impunctate, its margin and two spots at the base light yellow; elytra testaceous, with three black longitudinal vittæ, deeply punctate-striate.

Length $2\frac{1}{2}$ lines.

Hab. Mexico.

Kindly lent to me for examination by Dr. Peters.

2. **Cryptocephalus hirtus.**

Cryptocephalus hirtus, Suffr. Monogr. vi. p. 286, xii. p. 361[1].

Cryptocephalus mexicanus, Dej. Cat. 3rd ed. p. 447.

Dark brown above, finely pubescent; thorax very closely punctured, the interstices aciculate, with an elevated central ridge; elytra deeply punctate-striate, finely covered with hairs set in rows, dark brown, with three interrupted reddish transverse fasciæ, consisting of short longitudinal streaks.

Length $1\frac{1}{2}$ line.

Hab. Mexico[1], Oaxaca (*Sallé*).

3. **Cryptocephalus alternans.**

Cryptocephalus alternans, Suffr. Monogr. vi. p. 290.

Yellow above; three spots on the head, a heart-shaped one at the base of the thorax, and three oblique bands at the elytra black; below and the legs black and yellow.

Length $2\frac{1}{2}$ lines.

Hab. Mexico.

4. **Cryptocephalus gemellatus.**

Cryptocephalus gemellatus, Suffr. Monogr. vi. p. 292, xii. p. 364.

Yellow above; head with three, thorax with four spots; elytra geminate punctate-striate, yellow, each elytron with two longitudinal bands; underside black, spotted with yellow.

Length 2¼ lines.

Hab. Mexico, El Mirador.

Closely allied to the preceding species, but principally distinguished by the want of the third elytral vitta.

5. **Cryptocephalus semimarginatus.** (Tab. III. fig. 3.)

Cylindrical, black and yellow below, above light yellow, three central and two lateral spots, as well as the margins of the thorax, black; elytra geminate punctate-striate, each elytron with two longitudinal vittæ and the sutural and lateral margins black.

Length 2½ lines.

Head with a few deep punctures at the middle, yellow, extreme vertex, a short longitudinal central line, and a spot at the base of the antennæ at each side black; antennæ black, the second and third joints obscure fulvous or flavous; thorax with acute and elongate posterior angles and a short oblique depression in front of the latter; surface finely and distantly punctured, yellow, shining, the posterior margin narrowly black, two triangular spots at the middle of the disk, a short transverse streak in front of the base, sometimes divided into two spots, and a semicrescentiform narrow longitudinal band at each side, nearly touching the base, black; scutellum black, with a basal groove; elytra slightly narrowed behind, moderately deep punctate-striate, the punctures running parallel and in pairs, the first pair united at the end near the suture, the third pair widened anteriorly, the lateral margin accompanied by a deep and regular single row of punctures, interstices finely transversely rugose, sutural and the posterior half of the lateral margin, as well as two vittæ, black, the first of these latter is situated between the second pair, the second between the third pair of striæ, neither of them touching the base or the apex of the elytra; underside and legs black; sides of the breast and the space between the legs yellow. Female with a deep circular groove at the last abdominal segment.

Hab. Mexico, Oaxaca (*Sallé*).

Five specimens of this species from Mexico are before me. They show no material difference except in the punctuation of the thorax, which in one of them is almost absent; the markings of the latter part do not allow this species to be united either with *C. alternans* or *C. gemellatus.* Another peculiarity is the colour of the anterior and *outer* part of the lateral elytral margin, which remains of the ground-colour in all the specimens, the posterior part being black only, while the *inner* one at the underside is black throughout; the present species would seem to be most nearly allied to *C. gemellatus.* Besides the above noticed difference, the punctured striæ of the elytra, which are distinctly visible to the end, while they are obliterated in *C. gemellatus*, will help to distinguish the two insects.

6. **Cryptocephalus flavonotatus.**

Cryptocephalus flavonotatus, Suffr. Monogr. vii. p. 1; Sturm, Cat. 1843, p. 302.

Yellow; thorax with a bilobed central rufous spot; elytra closely and coarsely punctured, with three sinuate rufous transverse bands, below brown and yellow.

Length 3¼ lines.

Hab. Mexico.

7. **Cryptocephalus circumflexus.**

Cryptocephalus circumflexus, Suffr. Monogr. vii. p. 4.

Hab. Mexico.

In coloration almost identical with the preceding species, but differing by the shape of the thorax and its different markings, and by the numerous transverse raised spaces (called fields by Suffrian) of its elytra. The insect is also smaller, the size being $2\frac{3}{4}$–3 lines.

8. **Cryptocephalus nigrovittatus.** (Tab. III. fig. 16.)

Flavous, shining; terminal joints of the antennæ, the posterior margin of the thorax, and two interrupted longitudinal vittæ of the elytra black, the latter subgeminate punctate-striate.

Length 1–$1\frac{1}{4}$ line.

Head flat, impunctate; antennæ longer than half the body in the male, shorter in the female, their basal five joints flavous, the rest black, slender; thorax rather long in the male, distinctly narrowed anteriorly, with its sides scarcely rounded but deeply deflexed, posterior angles pointed, surface very shining light fulvous or flavous, the margins lighter, disk totally impunctate, narrowly margined with black posteriorly; scutellum flavous, margined with black; elytra deeply punctate-striate, each elytron with nine rows of punctures placed as follows—the first sutural row abbreviated a little behind the middle, the second one slightly curved and united at the apex with the submarginal row, the space between these occupied by two pairs of striæ, the inner one of which is narrowed at the middle, while the outer pair separates or widens gradually towards the base of the elytra, the seventh row is only indicated by a few punctures below the shoulder; all these striæ are very distinctly visible to their ends, but the inner pairs do not extend quite to the apex; the interstices are distinctly costiform near the lateral margin, and the space between the first pair of striæ is occupied by a black longitudinal band from the base to below the middle, while another band occupies the space of the following pair, but is sometimes interrupted and forms three black spots; underside and the legs entirely flavous; prosternum deeply bilobed; the female insect is larger and the thorax more transverse.

Hab. Guatemala, Zapote (*Champion*).

The geminate striate elytra and the markings of the latter would show this species to belong to the seventh group of Suffrian, while its small size and other characters would separate it from any other species belonging to that group.

9. **Cryptocephalus quadrivittatus.** (Tab. IV. fig. 1.)

Broadly cylindrical, flavous; last six joints of the antennæ, the tibiæ, five spots at the thorax, sutural and lateral margins of the elytra, and four longitudinal vittæ of the latter (the outer one short) black.

Length 2 lines.

Head with a shallow depression between the eyes, and some more or less numerous punctures; clypeus subquadrate, distinctly punctured and separated from the head; antennæ extending to one third the length of the elytra, the joints, with the exception of the second one, of nearly equal length, the first five joints fulvous, the rest black; thorax nearly three times as broad as long, cylindrical when seen from above, the sides greatly deflexed, anterior angles acute, pointed, and directed backwards, the lateral margin evenly rounded, surface entirely impunctate, fulvous, shining, the posterior margin narrowly black; five black spots, of which the middle one is more elongate, are placed across the disk at regular intervals; scutellum black, with a deep basal groove; elytra broadly cylindrical, only about twice as long as the thorax, rather finely but distinctly punctate-striate from a little below the base to the apex, the six and seventh rows abbreviated below the shoulder, the latter and the commencement of the following row much deeper impressed than the others, the interstices flat and impunctate; the colour is of a lighter

shade than that of the thorax, the sutural and lateral margins black (the former broadly, but narrowed near the apex), a broad black stripe on the disk of each elytron runs parallel with the suture, but is abbreviated near the base and apex; another much shorter stripe is placed near the lateral margin, commencing from the base and extending to about half the length of the elytra, where it finishes in a point; underside and thighs light fulvous, thinly pubescent, inflexed lateral margin of the elytra and the tibiæ and tarsi black; prosternum narrowed at the base, slightly longer than broad, and deeply bidentate at its posterior margin.

Var. Dark fulvous; the thorax without spots.

Hab. MEXICO, Playa Vicente (*Sallé*); GUATEMALA, Yzabal (*Sallé*).

This handsome species cannot be confounded with any of the first or second groups of Suffrian, to which it is somewhat allied in the colour and markings of its elytra; in the present species these marks run straight and contrary to the oblique punctured striæ which they cut; the latter also are much finer than in *C. ornatus*, Fabr., and its allies.

10. **Cryptocephalus plagiatus.**

Cryptocephalus plagiatus, Suffr. Monogr. vii. p. 8[1].

Black, the interrupted anterior and lateral margins, as well as two spots of the thorax and eight spots of the elytra (3, 2, 2, 1), yellow; below black and yellow.

Length $1\frac{5}{6}$ line.

Hab. MEXICO[1], Cuernavaca (*Sallé*); GUATEMALA, Calderas (*Champion*).

Only a single specimen has been received from Guatemala, which does not quite agree with Suffrian's type either in sculpturing or shape of the elytral spots; the antennæ also are entirely black, with the exception of the first two joints; but as this species is no doubt as variable as many others, further material is necessary to come to a conclusion. Another specimen, from the collection of Mr. Sallé, is smaller, and the spots are surrounded by narrow and deep black rings. I have examined the type in the Berlin Museum.

11. **Cryptocephalus patheticus.**

Cryptocephalus patheticus, Suffr. Monogr. vii. p. 10[1].

Above yellow, the margins of the thorax lighter; elytra black, with eight partly united yellow spots (3, 2, 2, 1).

Length $1\frac{1}{2}$ line.

Hab. MEXICO[1], Oaxaca (*Sallé*); GUATEMALA, Dueñas, Calderas (*Champion*).

It is not without doubt that I refer the specimens received from Guatemala to this species. Suffrian has described his from a single specimen; and there is nothing except the colour of the thorax to distinguish it from *C. plagiatus*; the spots of the elytra are here as variable as in other species; and not even the punctuation of the latter is constant. In some specimens the elytra are black, with no other spots than those along the lateral margin; the thorax, however, is in no specimen yellow, as Suffrian describes it, but rufous or dark fulvous, which is also the case with a specimen in Dr. Baly's collection and marked "type."

12. **Cryptocephalus porosus.** (Tab. III. fig. 4.)

Cryptocephalus porosus, Suffr. Monogr. vii. p. 11.

Brown; thorax coarsely rugose-punctate, the margins and two basal spots yellow; elytra yellow, with three transverse brown bands formed of spots.

Length $2\frac{1}{3}$ lines.

Hab. Mexico, Oaxaca.

The sculpture of the thorax will distinguish this species from similarly coloured ones.

13. **Cryptocephalus tæniatus.**

Cryptocephalus tæniatus, Suffr. Monogr. vii. p. 13.

Brown; head, the margins, and two spots of the thorax yellow, the latter coarsely punctate; elytra yellow, with three interrupted brown longitudinal lines.

Length 3 lines.

Hab. Mexico.

14. **Cryptocephalus loratus.**

Cryptocephalus loratus, Suffr. Monogr. vii. p. 15.

Brown, anterior and posterior margins, as well as two spots of the thorax, yellow; elytra yellow, with three brown longitudinal vittæ; interstices flat, alternately wider, interrupted behind the shoulder by a distinct transverse space.

Length $2\frac{1}{3}$–$2\frac{2}{3}$ lines.

Hab. Mexico.

Specimens of this species from the Berlin Museum have been also lent to me by Dr. Peters.

15. **Cryptocephalus saginatus.**

Cryptocephalus saginatus, Suffr. Monogr. vii. p. 19.

Rufous; thorax smooth, its margins yellow; elytra very regularly punctate-striate, the sixth and seventh rows abbreviated, rufous, base, apex, and a number of irregularly placed elongate spots light yellow.

Length $1\frac{2}{3}$ line.

Hab. Mexico.

16. **Cryptocephalus rimosus.**

Cryptocephalus rimosus, Suffr. Monogr. vii. p. 22[1].

Fulvous; thorax scarcely visibly punctate; elytra with two obscure transverse brown bands, the striæ semi-regular, the sixth and seventh row irregular.

Hab. Mexico[1], Oaxaca, Juquila (*Sallé*); Guatemala, Aceytuno (*Salvin*).

Suffrian's type has been kindly lent to me for examination by Dr. Peters.

17. **Cryptocephalus octodecimpunctatus.** (Tab. III. fig. 6.)

Cryptocephalus 18-*punctatus,* Chevrol. Dej. Cat. iii. p. 447; Suffr. Monogr. vii. p. 23[1].

Yellow; thorax smooth, finely margined with black posteriorly; elytra regularly punctate-striate, the fifth

and two following striæ interrupted below the shoulder; each elytron with nine small black spots (1, 4, 2, 2).

Length $2\frac{2}{3}$ lines.

Hab. MEXICO, Cordova (*Sallé*), Jalapa[1], Vera Cruz, Oaxaca.

This easily recognizable species does not seem to be a rare one, and is contained in most collections; it has not been received as yet from Guatemala or other parts to my knowledge.

I cannot at all agree with Suffrian's definition of the elytral punctuation in this and several other species. In counting the number of striæ on each elytron, I find in the present insect but nine rows (the short sutural one not included); the eighth row, according to Suffrian, is absent and only indicated by an impression of the ninth (!), which I am at a loss to understand, as it conveys no meaning. This author further says that the fifth and eighth striæ are united at their points, which cannot be the case, since, according to the same author's description, the eighth row is absent; it is in reality the third and fourth and the fifth and seventh rows which unite at their ends. Suffrian assumes ten rows in all the species of Cryptocephalidæ; and although these are generally present, there are plenty of exceptions; where there are less it would be better, to avoid confusion, to count and describe them according to the number present.

18. **Cryptocephalus ictericus.**

Cryptocephalus ictericus, Suffr. Monogr. vii. p. 25.

Light yellow; thorax smooth, impunctate; elytra with the punctured rows almost disappearing near the apex, yellow, extreme base, as well as the base of the thighs and the knees, black.

Length 2 lines.

Hab. MEXICO.

The type has been sent to me by Dr. Peters.

19. **Cryptocephalus quaternarius.** (Tab. III. fig. 15.)

Cryptocephalus quaternarius, Suffr. Monogr. vii. p. 230[1].

Piceous or black below, testaceous above, the thorax with three transversely placed spots; elytra regularly punctate-striate, each elytron with four transversely placed spots, two at the base, and two behind the middle; legs fulvous.

Length $1\frac{1}{2}$ line.

Hab. MEXICO[1], Cordova; GUATEMALA, Capetillo (*Champion*).

The figure represents a specimen from Capetillo.

20. **Cryptocephalus austerus.**

Cryptocephalus austerus, Suffr. Monogr. vii. p. 27[1].

Testaceous or brown; thorax finely punctate; elytra deeply punctate-striate, the fifth and following striæ united at their base and apex and of half the length of the others, with two or three more or less distinct narrow, transverse, sinuate bands.

Length $1\frac{1}{4}$–$1\frac{3}{4}$ line.

Hab. MEXICO[1], Orizaba, Jalapa (*Sallé*).

In this species the fifth elytral stria is only half the length of the others and deeply hollowed out near its base, followed directly by an equally developed convexity; it is further united to the following stria (called by Suffrian the eighth), and encloses a smooth space something like a hatchet with two blades. The species varies from light yellow to brown, and is closely allied to *C. rimosus*, but distinguished by the fine punctuation of the thorax and the different directions of the punctuated striæ. I have also examined the specimen in the Berlin Museum.

21. **Cryptocephalus insolidus.**

Cryptocephalus insolidus, Suffr. Monogr. vii. p. 29.

Yellowish brown; thorax scarcely punctured, with a narrow black posterior margin; elytra with narrow dark lines, following the striæ, the latter with the sixth and seventh rows interrupted, the eighth curved inwards.

Length $2\frac{1}{2}$ lines.

Hab. MEXICO.

22. **Cryptocephalus maculipennis.**

Cryptocephalus maculipennis, Suffr. Monogr. vii. p. 30.

Rufous; margins of the thorax and two oblique narrow spots at its base flavous; elytra distantly but deeply subgeminate punctate-striate, flavous, each elytron with five transversely placed spots at the base (the inner two of which are linear), three others behind the middle, and two near the apex brown.

Length $2\frac{1}{2}$–3 lines.

Hab. MEXICO, Orizaba, Cuernavaca (*Sallé*).

23. **Crytocephalus atrofasciatus.** (Tab. IV. fig. 2.)

Below flavous; thorax fulvous, the margins and two oblique basal spots obscure flavous; elytra deeply punctate-striate, flavous, each elytron with three deeply dentate black transverse bands.

Length ♂ $2\frac{1}{2}$, ♀ $3\frac{1}{2}$ lines.

♂. Head with a few deep punctures, flavous, with a central fulvous spot; antennæ nearly as long as the body, all joints from the fifth very slender and elongate, the first four and part of the fifth joints flavous, the rest black; thorax much narrowed towards the apex, posterior margin not lobed in the middle and moderately rounded, surface very minutely punctate, fulvous, the margins and two more or less distinct oblique basal spots flavous; scutellum black; elytra deeply and closely punctate-striate, the fifth stria connected with the eighth by a short transverse row of punctures, representing the sixth and seventh row, the latter two interrupted below the shoulder and limited by two transverse smooth elevated spaces, behind which there is a continuation of the fifth and sixth rows, represented by a few punctures only; interstices near the lateral margins distinctly longitudinally costate; the colour is the same as that of the thorax or lighter flavous; a deeply bilobed transverse band at the base of each elytron, another one, immediately below the middle, distinctly toothed near the suture, and a third, apical band sometimes interrupted, deep black; all these bands extend from the lateral margin across the sutural one, the former as well as the latter being also black; underside flavous; legs fulvous with lighter marks, the posterior thighs extending quite as far as the elytra; prosternum acutely bidentate.

Var. The black of the elytra predominating so much as to enclose three transverse rows of yellow spots more or less interrupted by the black interstices; the apex also yellow.

♀. Much larger; the basal and apical black elytral bands represented, the former by five, the latter by two elongate spots; posterior thighs much shorter than the abdomen; last abdominal segment with a profoundly impressed smooth fovea.

Hab. MEXICO, Cuernavaca (*Sallé*).

There will be no difficulty in distinguishing this species from *C. congestus*, Fabr., near which it ought to be placed. It differs in the want of the tooth, so distinct in *C. congestus*, below the anterior angles of the thorax, and in the very acute- and long-toothed prosternum; the antennæ, although long, do not extend beyond the elytra. The same differences and others separate it from *C. sulphuripennis*, Melsh.

24. **Cryptocephalus irroratus.** (Tab. III. fig. 9.)

Cryptocephalus irroratus, Suffr. Monogr. vii. p. 32[1].

Rufous; thorax finely rugose-punctate, the margins and two oblique basal spots flavous; elytra very deeply and remotely punctate, flavous, with three broad transverse rufous bands, the last consisting of two or more spots.

Length $2\frac{1}{2}$–3 lines.

Hab. Mexico[1], Tehuantepec, Panistlahuca (*Sallé*); British Honduras, R. Hondo, R. Sarstoon (*Blancaneaux*); Guatemala, Tocoy, Vera Paz (*Champion*); Nicaragua, Granada (*Sallé*); Panama (*Boucard*).

A rather variable species in regard to colour, some specimens being almost dark brown above, with more or less distinct yellow spots; others, again, have the latter colour predominating, with distinct rufous bands. The finely rugose thorax will help to distinguish this species. The figure is from a Honduras specimen that does not differ from the type in the Berlin Museum, which I have examined.

25. **Cryptocephalus trizonatus.** (Tab. III. fig. 8.)

Cryptocephalus trizonatus, Suffr. Monogr. xii. p. 372[1].

Cryptocephalus tricinctus, Suffr. Monogr. vii. p. 34[2].

Rufous; thorax impunctate, the margins flavous, the posterior one interrupted; elytra moderately deeply punctured, flavous, with two transverse brown bands, the first near the base, the second below the middle.

Length $1\frac{1}{2}$–2 lines.

Hab. Mexico, Oaxaca[1 2], Campeche[2] (*Sallé*); Guatemala, near the city (*Champion*); Nicaragua, Chontales (*Belt*, *Janson*).

This does not seem to be a rare species in Guatemala, and is easily known by the brown transverse band of the thorax. I have also examined the type in the Berlin Museum; the figure is from a Chontales specimen.

26. **Cryptocephalus guatemalensis.** (Tab. III. fig. 10.)

Pale rufous below; thorax rugosely punctate, flavous, with two broad longitudinal rufous bands; elytra deeply and remotely punctured, flavous, a transverse basal band, another much shorter one behind the middle, and two or three spots near the apex rufous.

Length 2–$2\frac{3}{4}$ lines.

Head deeply but remotely punctured; antennæ in the male nearly extending the length of the body, black, the first three joints rufous; thorax proportionally long, its sides nearly straight, and narrowed anteriorly, surface rather coarsely and closely punctured, with a smoother central line; scutellum flavous, margined with rufous; elytra almost foveolate and very distantly punctate, the punctures near the base very irregular and the interstices distinctly transversely costate, those towards the apex longitudinally raised; the basal brown band not extending to the lateral margin, its posterior margin convex, and at the

suture extending to the middle of the elytra, the second band much shorter and sometimes connected with the apical spots; pygidium coarsely rugose-punctate, with an elevated central ridge and two flavous spots, which are sometimes absent; legs and underside rufous; prosternum and the middle of the abdomen more or less flavous; posterior thighs as long as the elytra in the male.

Var. The two brown bands of the thorax divided into four.

Hab. MEXICO, Playa Vicente, Oaxaca (*Sallé*); GUATEMALA, Capetillo, Dueñas (*Champion*).

This well-marked species seems to be closely allied to *C. leucomelas* from North America, from which it is distinguished by the different coloration of the elytra and the length of the antennæ. All the Mexican specimens before me belong to the above variety, while those from Guatemala all agree with the type figured; but this difference is the only one.

27. **Cryptocephalus xanthospilus.**

Cryptocephalus xanthospilus, Suffr. Monogr. vii. p. 38.

Hab. MEXICO.

I have great doubt whether this species is really distinct from *C. irroratus*, Suffr. I fail, at least, to find sufficient distinguishing characters in the author's description; the four brown spots at the apex of the elytra, upon which Suffrian lays some stress, and all intermediate stages to a band are visible in the specimens which I refer to *C. irroratus*; the same may be said of the more or less distinct elytral bands. Other differences I cannot find; and in Suffrian's long description hardly any allusion is made to the direction of the elytral striæ.

28. **Cryptocephalus stigmatipennis.** (Tab. III. fig. 14.)

Light fulvous; apical joints of the antennæ black; thorax with a short transverse basal depression, distantly punctured; elytra yellowish white, deeply punctate-striate, each elytron with six small black spots (2, 2, 2).

Length 1½ line.

Head impunctate, lower part of face protruding, eyes almost contiguous and very large in the male; antennæ as long as half the body, first five joints flavous, the rest black; thorax with the posterior margin slightly and evenly rounded, without any median lobe, sides with an oblique distinct depression, which extends nearly to another transverse depression in front of the scutellum, surface covered with distinct but not very closely approached punctures, fulvous, shining, the posterior margin narrowly black; scutellum elongate subtriangular, black; elytra pale yellowish, deeply punctate-striate, the first stria (not the scutellar one) short, the second united at the apex to the ninth, the same being the case with the third and fourth and the fifth and eighth striæ, the latter making a short inward curve near the middle, the sixth and seventh row abbreviated below the shoulder, interstices smooth, slightly costate in the male, more distinctly in the female, an elongate spot at the shoulder, another between the latter and the scutellum, placed between the first and third row, two round, transversely placed spots behind the middle, and two others near the apex, at the end of each united pair of striæ, black. Female with the usual deep abdominal groove, but the elytra extending beyond the pygidium; posterior margin of the prosternum nearly truncate.

Hab. GUATEMALA, Capetillo (*Champion*).

On account of the distinct lateral and basal depressions of the thorax, this species

cannot very well be classified amongst any of Suffrian's North-American groups, but should form a special division.

29. **Cryptocephalus quatuordecimpustulatus.** (Tab. III. fig. 7.)

Cryptocephalus 14-*pustulatus*, Suffr. Monogr. vii. p. 41[1].

Cryptocephalus tesseratus, Chevr. Col. Mex. cent. i. 1834, fasc. iv. no. 85; Sturm, Cat. p. 302.

Yellowish brown; thorax impunctate; elytra finely punctate-striate, with a transverse depression below the shoulder, the light colour divided by brown bands into eight large spots (3, 2, 2, 1).

Length 2–2½ lines.

Hab. Mexico[1], Tuxtla, Cordova, Santecomapan, Playa Vicente (*Sallé*); Guatemala, near the city (*Salvin*), Capetillo (*Champion*).

This species is contained in most collections, and has been sent by Mr. Champion in great numbers; the depth of the punctuation varies a good deal, as do also the size of the spots of the elytra. The figure is drawn from a specimen from Capetillo.

30. **Cryptocephalus championi.** (Tab. III. fig. 13.)

Elongate, parallel, rufous; thorax finely punctured, the margins and two oblique basal spots flavous; elytra regularly geminate-punctate-striate, the interstices alternately more or less broadly flavous.

Length 2–2¼ lines.

Head with a central space of deep punctures, this space brown, rest bright flavous; antennæ more than two thirds the length of the body in the male, black, the underside of the first two or three joints fulvous; thorax twice as broad as long, distinctly narrowed in front, its posterior margin nearly straight, posterior angles produced backwards, surface more or less distinctly punctured, bright rufous, the anterior margin narrowly, the lateral one broadly light yellow and nearly divided by a narrow protruding point of the ground-colour into two spots, two more like-coloured round spots are placed at each side at the base; scutellum black, with a small basal fovea; elytra nearly parallel, very regularly, closely, and deeply geminate-punctate-striate, the first (subsutural) row abbreviated at a little distance from the apex, the second row connected with the ninth posteriorly, the same being the case with the next three pairs of striæ, of which the middle one, however, is much shorter than the others; the space between the punctures distinctly transversely wrinkled, the interstices smooth and costate near the lateral margin, the latter broadly, base and apex narrowly yellowish white; two other very narrow longitudinal vittæ of the same colour are placed between the first and second and third and fourth striæ; indications of others are more or less distinct in some specimens. If the light colour of the elytra were assumed as the ground-colour, there would be a sutural common brown band narrowed at the apex, another narrower one and subsutural, and a broad band on the disk. Underside and legs brown or piceous, base of the latter lighter; the abdomen mottled with flavous to a greater or smaller degree, prosternum and breast of the same colour; posterior thighs in the male extending to the end of the elytra.

Hab. Guatemala, near the city (*Salvin*), Capetillo (*Champion*).

I know of no species with which the present one can be confounded, the elytral striæ being perfectly regular without interruption, and at the same time deeply and closely impressed. The specimen figured is from Capetillo.

31. **Cryptocephalus ocellatus.**

Cryptocephalus ocellatus, Suffr. Monogr. vii. p. 43[1].

Cryptocephalus subtilis, Harold, Col. Hefte, x. 1872, p. 254.

Hab. Mexico, Jalapa[1]; Guatemala, Zapote (*Champion*).

In colour this species agrees with *C. 14-pustulatus*, but is much smaller, and the punctures of the elytra are much more deeply impressed. In a specimen contained in the collection of Mr. Baly, and named by Suffrian, there is scarcely any trace of the darker markings which divide the spots on the elytra, while the specimens sent by Mr. Champion are very distinctly marked, but differ in having only six large yellowish spots, the shoulder-spot and those of the apex being united together. In other respects the insects do not differ. The type has been kindly lent to me for comparison by Dr. Peters.

32. **Cryptocephalus rhombeus.**

Cryptocephalus rhombeus, Suffr. Monogr. vii. p. 44[1].

Hab. Mexico [1]; Guatemala, Zapote, Dueñas (*Champion*), Chinautla (*Salvin*).

This is another species allied to the preceding ones, but larger than *C. ocellatus*, and distinguished by the distinct yellow spots; from *C. guttulatus*, which it resembles in that respect, the want of the transverse raised space below the shoulder separates it. The species seems to be a very variable one. A good many specimens were obtained by Mr. Champion; these, however, differ somewhat from the type, the males being smaller, more deeply punctate-striate, and some of the elytral spots sometimes absent; in others there are the usual yellowish spots on the thorax, which in the type are wanting; but as these are only differences in colour, and the rest of the characters agree with Suffrian's species, I have no doubt that all the specimens belong to the same. Through Dr. Peters's kindness I have been enabled to examine the type in the Berlin Museum, which is a female.

The figure represents a well-marked specimen from Zapote.

33. **Cryptocephalus irazuensis.**

Light brown; a spot on each thigh, two on the thorax, and the margins of the latter light yellow; elytra very finely punctate-striate, each elytron with seven light-yellow spots (2, 2, 2, 1).

Length 1½ line.

Head with a few punctures, yellow; antennæ light brown; thorax impunctate, yellow, the middle occupied by a broad ω-shaped brown mark, the lateral strokes of which extend to the anterior margin; elytra very finely punctate-striate, the striæ becoming partially very obsolete; two small yellow spots are placed at the base (one near the scutellum, the other between it and the middle). The other spots are placed exactly as in *C. rhombeus*.

Hab. Costa Rica, Volcan de Irazu (*Rogers*).

It will only be necessary to point out the differences between the present species and *C. rhombeus*, to which it is closely allied. The antennæ in *C. irazuensis* are entirely brown; the thorax is distinctly marked with the same-shaped spot as in *C. plagiatus*; but the principal distinction lies in the fine or almost obsolete punctuation of the elytra, which in *C. rhombeus* have also an extra spot at the shoulder, and connected with another one below it, which is entirely absent in the present species; the legs, moreover, in the latter,

have each a yellow spot at the end of the thighs. Two females were received from Costa Rica, which do not differ from each other.

34. **Cryptocephalus militaris.** (Tab. III. fig. 5.)

Cryptocephalus militaris, Suffr. Monogr. vii. p. 53, xii. p. 374[1].
Cryptocephalus purpureomaculatus, Suffr. Monogr. vii. p. 51[2].
Cryptocephalus miniatus, Dej. Cat. 3rd ed. p. 447.

Metallic green below, finely pubescent; above metallic greenish blue; thorax closely rugosely punctate; elytra deeply punctate-striate, each elytron with a large triangular patch at the shoulder and a small apical spot bright red.
Length 2–3 lines.

Hab. MEXICO [1] [2], Izucar, Etla, Puebla (*Sallé*); GUATEMALA, near the city (*Salvin*), El Jicaro, Vera Paz (*Champion*); NICARAGUA, Chontales (*Belt*).

This handsome species is not uncommon in Mexico, and is contained in most collections. It is very variable in size and colour, one specimen in M. Sallé's collection having the surface of the elytra entirely red with only a small sutural blue spot, while another specimen is entirely blue with a small square-shaped red spot at the shoulder; the blue colour of the elytra is sometimes changed to black. Suffrian, who describes his *C. militaris* as black and red, says [1], that black varieties exist according to his informant Truqui, but does not say whether the entire insect is of that colour, or how far the latter extends. I have never seen entirely black specimens. The figure represents a Mexican specimen, which does not differ from the type in the Berlin Museum.

35. **Cryptocephalus basalis.** (Tab. IV. fig. 4.)

Cryptocephalus basalis, Suffr. Monogr. vii. p. 54, xii. p. 376[1].
Cryptocephalus cruentatus, Suffr. Monogr. vii. p. 56[2].
Cryptocephalus mucoreus, Lec. Col. Kans. 1860, p. 23[3].

Black or red, finely pubescent; thorax finely rugosely punctured, black, the anterior margin and two more or less distinct basal spots red; elytra coarsely punctate-striate, the interstices finely transversely rugose, covered throughout with fine grey hairs, black, the base red.
Length $2\frac{1}{2}$–3 lines.

Var. *a.*

Sides of thorax, base, sides, and central transverse spot, together with the apex of the elytra, red. (*C. cruentatus*, Suffr.)

Var. *b.*

Elytra red, with a posterior black elongate spot on each.

Var. *c.*

Elytra and thorax black, a triangular spot at the base and a smaller one at the apex red.

Hab. NORTH AMERICA, Texas [3].—MEXICO [1], Parada, Yolotepec, Cuernavaca (*Sallé*); GUATEMALA, Dueñas, Capetillo (*Champion*).

The numerous specimens before me bring me to the conclusion that *C. basalis* and

C. cruentatus are but one species. The only difference, according to Suffrian, is one of coloration, which is very variable in this species, and of which I have nearly all the intermediate stages before me: the underside is either red or black; and the elytra vary much in the same respect, sometimes the one, sometimes the other colour predominating. The figures represent Mexican specimens of both Suffrian's species, the types of which I have examined in the Berlin Museum.

36. **Cryptocephalus sordidus.**

Cryptocephalus sordidus, Suffr. Monogr. vii. p. 58[1].

Fulvous above; head, antennæ (the basal joints excepted), and the underside black; thorax finely rugosely punctate; elytra deeply punctate-striate, with two obsolete transverse bands and a spot at the apex piceous; legs fulvous.

Length 2–2½ lines.

Hab. Mexico[1], Parada (*Sallé*).

The bands of the elytra in this species are not black in the specimens before me, but brownish and more or less obsolete; seen under a lens they are still more indistinct, the central one only being plain, while the others appear as isolated spots, thus agreeing generally with the type in the Berlin Museum.

37. **Cryptocephalus salvini.** (Tab. IV. fig. 3.)

Cylindrical, fulvous, shining; antennæ (their basal joints excepted) and legs black; elytra very finely punctate-striate, with a short transverse subbasilar depression.

Length 1¼ line.

Head flat, distantly punctured, fulvous, shining; antennæ two thirds the length of the body, slender, the first four joints fulvous, the rest black; thorax very convex, narrowed from the base to the apex, the posterior margin but slightly sinuate and produced at the middle, posterior angles acute but not much produced, surface perfectly smooth, impunctate and shining, fulvous, with a very slight depression at each side in front of the scutellum; the latter also fulvous, with a small groove at the base; elytra very slightly transversely depressed below the shoulders, very finely and regularly punctate-striate, the third and fourth and the fifth and eighth striæ united at a little distance from the apex, the sixth and seventh row only indicated by a few punctures in front of the basal depression, interstices flat and smooth, of the same colour as the thorax, the base very narrowly margined with black; underside and the base of the anterior femora also fulvous; all the rest of the legs black.

Hab. Guatemala, near the city (*Salvin*).

This new species, of which Mr. Salvin only obtained a single female, approaches in shape and colour to *C. perplexus* of South America; but it differs in the much finer punctuation and the colour of the legs.

38. **Cryptocephalus obscuripennis.** (Tab. III. fig. 11.)

Light flavous; antennæ (their basal joints excepted) black; thorax impunctate, fulvous, shining, the margins and two oblique basal spots flavous; elytra moderately deeply punctured, with the inner three pairs of striæ united at their apex, each elytron with six very obscure flavous spots.

Length 2 lines.

Head flat, impunctate; antennæ as long as half the body, slender, the first four joints fulvous, the rest black; thorax nearly three times as broad as long, the sides evenly rounded, the posterior angles not produced but acute, posterior margin slightly sinuate and but little produced towards the middle, surface perfectly impunctate and shining, the interrupted lateral margin broadly, the others narrowly flavous, and the base with two widely apart yellow oblique spots; scutellum fulvous, margined with black; elytra cylindrical and parallel, with ten rows of brown punctures, placed as follows—the first one ending much behind the middle, the third and fourth united at some distance from the apex, the fifth and sixth rows also united, but much shorter than the preceding ones, the seventh and eighth of the same length as the first pair, and interrupted below the shoulder by two short oblique transverse rows of punctures which enclose between them a smooth space, the ninth and tenth rows complete and ending near the apex, the interior of the punctures dark brown, forming irregular longitudinal lines which surround, when seen *without* a glass, five or six large round flavous spots, as represented on our Plate. Underside also flavous, legs more fulvous.

Hab. GUATEMALA, Capetillo (*Champion*).

In the markings of the elytra this species, of which I have seen a single female only, somewhat resembles that of *C.* 14-*pustulatus*, and in some respects also *C. rimosus*; but the totally different punctuation will not allow it to be confounded with either of them, as all the striæ are present here and only interrupted by a short transverse space.

39. **Cryptocephalus lævipennis.** (Tab. III. fig. 18.)

Elongate, parallel; below flavous or black and flavous; antennæ black, the basal joints fulvous; above black, margins and two spots of the thorax yellow; elytra almost impunctate, two or three longitudinal narrow streaks at the base, two spots behind the middle, and the apex yellow.

Length 1–1½ line.

♂. Head impunctate, bright yellow, with a short central brown impressed line; eyes nearly contiguous; antennæ as long as half the body, rather robust, the first four joints fulvous, the rest black; thorax transverse, of nearly equal width, but a little narrowed anteriorly, sides slightly rounded, posterior margin deeply sinuate at each side, surface impunctate, smooth and opaque, black, the lateral margins broadly, the others narrowly (as well as two narrow oblique spots at the base) yellow; scutellum black; elytra cylindrical and parallel, with very faint indications of punctured striæ, sometimes even these absent, and, if visible, only confined to the two outer rows, of the same subopaque black colour as the thorax, a streak from the base of the shoulder to the middle of the elytra, another of equal length near the sutural margin, and between these a very short streak (which is sometimes absent) yellow, two spots near the apex and the latter itself of the same colour: all these marks are rather variable in shape; and the elongate ones are generally widened at their ends. Underside and legs fulvous or flavous, the former more or less mixed with black, especially at the abdominal segments; posterior thighs as long as the abdomen.

♀. Larger; eyes more distant; thighs shorter, the last abdominal segment with a deep triangular fovea.

Var. Black, with the exception of the narrow anterior margin of the thorax and two apical spots of the elytra, which are bright yellow; legs fulvous.

Hab. MEXICO, Juquila (*Sallé*); GUATEMALA, near the city (*Salvin*), Zapote (*Champion*).

This curious species, which was found by Mr. Salvin at an elevation of 5000 feet, is the only instance, so far as I know, of a *Cryptocephalus* from the New World having almost entirely smooth or impunctate elytra, whereby it constitutes a special group, the peculiar elongate shape of the insect adding to its distinctive characters. Eight specimens are before me, of which two are males. The figure is drawn from a specimen from Mexico.

40. **Crytocephalus inconspicuus.** (Tab. III. fig. 12.)

Light fulvous; thorax impunctate, margins and two oblique basal spots obscure flavous; elytra with brown-punctured striæ, the sixth row short and connected with the eighth, interstices finely transversely rugose.

Length $2\frac{1}{2}$ lines.

Head flat, impunctate, flavous, shining; antennæ slender, filiform, the third and fourth joints of equal length and three times as long as the second; thorax very convex, subcylindrical, with a slight oblique groove in front of the posterior angles, the latter acute, posterior margin oblique, scarcely sinuate, and greatly widened towards the middle, surface impunctate, obscure fulvous, with an indication of the usual basal spots and the lighter margins; scutellum fulvous, margined with brown; elytra convex, deeply and very regularly punctate-striate, the striæ somewhat approached in pairs, the first and second, the third and fourth and the fifth and eighth united at their ends, the latter abbreviated before the apex, the former behind the middle; the sixth and seventh rows are indicated only by a few punctures, and connected behind the shoulder with the eighth; interstices distinctly raised and partially transversely rugose towards the apex; extreme base without any punctures, flavous, the interior of all the punctures dark brown, and the base narrowly margined with black. Underside and legs light fulvous; prosternum deeply emarginate at its posterior margin.

Hab. British Honduras, Rio Hondo (*Blancaneaux*); Guatemala, San Juan and Panzos, Vera Paz (*Champion*).

This rather large and robust species is almost identical in coloration with *C. insolidus* (not mentioned in Gemminger's Catalogue), but is quite distinct in the sculpturing of the elytra, the striæ in the other species not being united at their ends, the eighth of which is bent inwards and returns again to its position. The figure on the Plate represents a female from Honduras; the male is smaller, and its antennæ longer.

41. **Cryptocephalus zapotensis.** (Tab. IV. fig. 5.)

Black below; above bright yellow; thorax with three broad longitudinal bands; elytra very finely punctate-striate; a spot at each shoulder, another surrounding the scutellum, and a transverse band below the middle black.

Length $1\frac{1}{2}$–2 lines.

♂. Head with a few but distinct punctures; antennæ two thirds the length of the body, the joints, with the exception of the second, slender and elongate, obscure fulvous, the apical joints darker; thorax very convex and widened in the middle, the posterior margin deeply sinuate at each side, the posterior angles acute and pointed with a slight oblique depression near their apex, surface smooth and impunctate, yellow, with three broad longitudinal bands, which do not quite extend to the anterior margin, and are sometimes connected in shape of an ω; scutellum black: elytra finely and regularly punctate-striate, the striæ becoming very obsolete posteriorly, the interstices flat; yellow, a round spot surrounding the shoulder, another, more triangular-shaped, below the scutellum at the suture, and a broad sinuate transverse band below the middle, extending to the lateral margins, as well as the latter itself, black. Underside black; legs fulvous; hinder femora as long as the body.

♀. Larger, the antennæ shorter, and the eyes wider apart; in the Mexican forms the two anterior spots are united in shape of a transverse band; the pygidium and the underside are dark fulvous, the former with the base and a central line black.

Hab. Mexico, San Andres Tuxtla (*Sallé*); Guatemala, Zapote (*Champion*).

This species has been received in great numbers from Guatemala; and, although it resembles much *C. apocryphus* from Brazil in the colour and arrangement of its pattern, it is distinguished from that species by the black colour of the underside and the bands

of the elytra; the spots are also differently placed in this species; and the punctuation is still finer. The Mexican specimens do not differ sufficiently to consider them different species. A Zapote specimen is described and figured.

42. **Cryptocephalus auratus.**

Cryptocephalus auratus, Fabr. Syst. El. ii. p. 57; Suffr. Monogr. vii. p. 71, xii. p. 377, xv. p. 283[1].
Cryptocephalus æneus, Dejean, Cat. 3rd ed. p. 449.
Cryptocephalus æreus, Sturm, Cat. 1843, p. 304.
Cryptocephalus chalconotus, Mannerh. Bull. Mosc. ii. p. 312 (1843)[2].
Cryptocephalus viridis, Melsh. Proc. Ac. Phil. iii. p. 174; Haldem. Journ. Ac. Phil. ser. i. p. 256 (1849).

Greenish æneous; lower part of the face, sides of the thorax, basal joints of the antennæ, and the legs flavous; elytra finely punctate-striate, indistinctly so laterally and posteriorly.
Length $\frac{3}{4}$–1 line.

Hab. NORTH AMERICA, Pennsylvania[2], California, Carolina, Texas.—MEXICO, Yucatan[1]; GUATEMALA, near the city, Calderas, Dueñas, Zapote (*Champion*).—COLOMBIA[1].

This is, as will be seen by the above localities, a widely distributed and not uncommon species, of which we have received numerous specimens from Guatemala. Suffrian describes the antennæ as yellow; all the specimens before me have only the first six joints of that colour, the rest being dusky. The elytra have a kind of brassy reflection, but more of a greenish hue than yellowish; but a variety exists with blue elytra. Two specimens from Dueñas are before me which are entirely dark green, with piceous legs, and no trace of any yellow on the thorax; but I do not think this difference sufficient to consider it another species.

43. **Cryptocephalus subæneus.**

Piceous below; above light fulvous; elytra rather finely punctate-striate, their posterior half more or less greenish æneous.
Length $\frac{1}{2}$ line.
Head impunctate, with a distinctly impressed central line, the latter generally darker; antennæ as long as the thorax, the first four joints fulvous, the rest black; thorax about twice as broad as long, with the posterior angles distinctly produced into a point, surface shining fulvous, totally impunctate; scutellum raised posteriorly, black. Elytra finely punctate-striate on the disk, but the lateral striæ deeply impressed, the interstices there distinctly costate; the apical portion of the elytra almost impunctate; humeral callus prominent: the colour is the same as that of the thorax; but the basal and sutural margins are black, and the apical part of the elytra is greenish æneous, this colour extending across the suture to a greater or smaller degree without touching, however, the extreme apex. Legs entirely fulvous; underside piceous.

Hab. GUATEMALA, Zapote (*Champion*).

This very small species seems to be most nearly allied to *C. exilis*, Chevr.; it is, however, of half the size only, and sufficiently distinguished by its colour.

44. **Cryptocephalus inornatus.**

♀. Black below; base of the antennæ and of the anterior femora fulvous; above metallic violaceous blue. Length ½ line.

Eyes very closely approached, face and labrum yellow or fulvous; antennæ rather long, extending to one third the length of the body, four lower joints fulvous, the rest black and nearly as broad as long; thorax very convex, much narrowed anteriorly and deflexed, with a short but distinct basal transverse groove in front of the scutellum, surface very shining and totally impunctate, dark blue, the anterior margin very narrowly fulvous; apex of scutellum very acute, black; elytra cylindrical, convex, and parallel, very finely but regularly punctate-striate, the punctuation indistinct posteriorly; the sixth row short, the seventh absent; interstices smooth.

♂. Darker blue; head, anterior and part of the lateral margin of the thorax, as well as the legs, flavous; elytra deeply punctate-striate.

Hab. GUATEMALA, Dueñas, San Gerónimo (*Champion*).

Although there is a good deal of difference in both colour and elytral sculpturing in the two sexes of this species, I must, for want of more specimens, conclude that they are in reality identical in regard to the species, which seems to be allied to *C. viridiæneus*, Boh., but differs in its general colour and in the transverse depression of the thorax.

SCOLOCHRUS.

Scolochrus, Suffr. Monogr. vii. p. 104.
Griburius, Haldeman, Journ. Ac. N. Sc. Philad. 1849, p. 245.

Although this genus forms a link between the genera *Cryptocephalus* and *Pachybrachys*, and even approaches sometimes so close to the latter that the true determination is not at all easy, yet the general shape, in most instances, is well marked—the broad thorax, flattened upper surface, and the more developed anterior legs giving the insects a characteristic appearance. More than a hundred species are already known, principally from South America. Central America has furnished us at present with fifteen species.

1. **Scolochrus dichrous.**

Scolochrus dichrous, Suffr. Monogr. vii. p. 108 (1852).

Steel-blue; sides of the thorax and a basal and apical spot of the elytra yellow; thorax coarsely and closely punctate; elytra regularly, near the suture confusedly, punctate-striate, the interstices finely wrinkled. Length 1¼–1½ line.

Hab. MEXICO, Oaxaca.

2. **Scolochrus purpurascens.** (Tab. III. fig. 21.)

Scolochrus purpurascens, Suffr. Monogr. vii. p. 109, xii. p. 387 [1].

Steel-blue, purplish above; sides of the thorax finely punctured and pubescent; elytra coarsely and irregularly punctate, a basal transverse band and the apex red. Length 2⅓–2½ lines.

Hab. MEXICO[1], Cordova (*Sallé*); GUATEMALA, Zapote (*Champion*); COSTA RICA, Volcan de Irazu (*Rogers*).

The difference between this and the following species consists principally in the purplish and more finely punctate thorax, which is also devoid of the light anterior margin; the legs in the present insect are also uniformly dark blue.

3. **Scolochrus albilabris.**

Scolochrus albilabris, Suffr. Monogr. vii. p. 111, xii. p. 388[1].
Scolochrus suturalis, Suffr. Monogr. vii. p. 113.
Scolochrus biverrucatus, Suffr. Monogr. vii. p. 115, xii. p. 389.

Hab. MEXICO[1], La Parada, Cuernavaca, Gua, Capulalpam, Juquila (*Sallé*); GUATEMALA, near the city (*Salvin*); HONDURAS (*Sallé*).

After examining a great many specimens, I have come to the conclusion that these three of Suffrian's species cannot well be regarded as specifically different. He admits himself the great variability of this insect, of which scarcely two are alike, and does not think it improbable that his *S. suturalis* is identical with *S. albilabris*.

S. biverrucatus is founded upon a single female, differing in the closer punctuation of the thorax and by the want of the apical elytral spot; the lateral margin of the former is also described as being uninterrupted white. I have now before me specimens which agree partially with Suffrian's type of this species; the thorax, however, is entirely black, as well as the posterior part of the elytra; and I could further distinguish another species closely allied to *S. albilabris* or to any of its allies; but I do not think that I am wrong in considering them all local varieties. A little closer punctuation and the absence of a spot is, in my opinion, not sufficient to make a new species of an insect which is known to vary to a great extent, not alone in regard to colour, but also in the punctuation of its different parts.

4. **Scolochrus zonatus.**

Scolochrus zonatus, Suffr. Monogr. vii. p. 113.

Hab. MEXICO, Oaxaca.

This species, which resembles very closely *S. albilabris*, is distinguished by the different shape of its body, the latter being more convex and the thorax laterally more rounded; the antennæ also are not widened at their extremity, but slender. The type of this species has been also kindly lent to me by Dr. Peters.

5. **Scolochrus montezuma.** (Tab. III. fig. 19.)

Scolochrus montezuma, Suffr. Monogr. vii. p. 116[1].
Scolochrus speciosus, Lec. Trans. Amer. Ent. Soc. ii. p. 56 (1867).

Black, covered below with short white hairs; posterior half of the thorax bright fulvous, anterior margin narrowly yellow; surface closely and deeply punctate; scutellum white; elytra black, sutural and lateral margins (the latter interrupted) shining white.
Length 2–2½ lines.

Hab. Mexico[1].

Suffrian only knew a single female of this curiously coloured species. I have now another male insect before me, from the collection of Mr. Baly, which is smaller and has the sutural white margin abbreviated posteriorly, the lateral one being only indicated by a short streak of white below the shoulder. It is not improbable, therefore, that specimens with totally black elytra may be met with. The specimen figured is that of the Berlin Museum.

6. **Scolochrus cazicus.** (Tab. III. fig. 24.)

Scolochrus cazicus, Suffr. Monogr. vii. p. 119[1].

Below black, silvery pubescent; sides of the abdomen and the posterior thighs yellow; thorax and a spot between the eyes fulvous; anterior margin of the former narrowly black; elytra black, shining, a subquadrate sutural spot at the base yellowish white.
Length 2 lines.

Hab. Mexico (*Baly*), Yucatan[1].—Colombia[1].

This species is very closely allied to *S. montezuma.* I do not think it at all improbable that it is but a variety of that species. It is true that *S. cazicus* is a shorter insect, which two specimens from the collection of Mr. Baly confirm; but in regard to the colour, no great reliance is to be placed on that, as other species of this genus show; and both the present one and *S. montezuma* were described by Suffrian from single females. The figure on our Plate is taken from a Mexican specimen.

7. **Scolochrus suffriani.** (Tab. IV. fig. 7.)

Black below, covered with thick white pubescence; sides of the abdominal segments and part of the posterior thighs yellow; posterior part of the thorax fulvous, the anterior margin black; elytra yellowish white, a narrow basal margin and a transverse band near the apex black.
Length 2¾ lines.

♂. Eyes nearly contiguous; antennæ fulvous, their five terminal joints black; thorax deeply foveolate-punctate at the sides, the interstices transversely wrinkled, to a smaller extent on the disk, the black anterior part much widened towards the middle; scutellum yellowish white: elytra deeply punctate-striate, the extreme apex smooth, the interstices very minutely rugose; yellowish white, the sutural and lateral margins, the humeral callus, and a streak from the latter to the suture, together with a transverse band below the middle, narrowed interiorly, black: posterior thighs extending to the end of the abdomen.

Hab. Mexico, Tehuantepec (*Sallé*).

I do not think I am wrong in considering the present insect a different species from the preceding ones. It is, although a male, larger than the females of the latter. The thorax is more deeply punctured, forming even small foveas; and the interstices are wrinkled. The white colour of the elytra predominates, and only leaves a transverse black band, although this may be subject to variation. The female is unknown.

8. **Scolochrus errans.** (Tab. III. fig. 25.)

Scolochrus errans, Suffr. Monogr. vii. p. 120[1].

Hab. MEXICO (*Baly*), Yucatan[1].

This is another somewhat doubtful species, described by Suffrian from a single female specimen. The one figured is taken from the collection of Mr. Baly, and does not quite agree with the typical description, inasmuch as the lateral margin of the thorax is broadly black. More specimens are required in order to come to a conclusion as to the specific value of Suffrian's type.

9. **Scolochrus decoratus.** (Tab. III. fig. 23.)

Scolochrus decoratus, Sturm, Cat. p. 303 (1843); Suffr. Monogr. vii. p. 124[2].

Var. *Scolochrus larvatus,* Newm. Ann. Nat. Hist. ser. 2, iv. p. 250[1] (1840); Suffr. Monogr. xii. p. 390.

Scolochrus spadiceus, Suffr. Monogr. vii. p. 131[2].

Below black, sides of the abdomen and the legs yellow, above yellow; thorax with two black lateral broad bands; elytra regularly punctate-striate, yellow, the base, a sutural spot below the scutellum, and a transverse band below the middle black.

Var. *a.*

The black bands of the thorax abbreviated posteriorly; elytra with a spot at the shoulder, another near the scutellum, and a third one near the apex black.

Var. *b.*

Thorax with two small black spots; each elytron with one black shoulder-spot, and another near the apex. (*S. larvatus.*)

Var. *c.*

The elytral bands broken up into spots.

Hab. NORTH AMERICA, Florida[1].—MEXICO, Oaxaca[2], Cordova, Tuxtla, Tehuantepec, Vera Cruz (*Sallé*).

Besides the above varieties, several others have been described by Suffrian. This author describes at length *S. larvatus*, Newm., and compares it with *S. equestris*, Fabr., from which it is no doubt well distinguished; but I am not able to find any important difference between it and *S. decoratus*, var. *b.* In the collection of Mr. Baly I find a specimen labelled *S. larvatus*, and marked "named by Suffrian;" so that I must consider this as good as the type itself, with which, according to the description, it certainly agrees well enough; but I have no doubt whatever that the species is but a variety of *S. decoratus*, of which the intermediate forms are before me. From others the present species may be recognized, amongst other characters, by the posterior extreme lateral margin, which is brown or black, the anterior part remaining of the ground-colour, and which is constant in all the specimens I have examined.

The figure on our Plate is from a Mexican specimen. The Berlin specimens have been kindly lent me by Dr. Peters—also Suffrian's type of *S. spadiceus*, in which I can

see nothing but a variety of *S. decoratus*, being yellow and brown instead of yellow and black. The punctured striæ of the elytra, which according to Suffrian are different from those of *S. decoratus*, do not show any difference whatever from any specimens of the latter which I have examined. I cannot, therefore, admit *S. spadiceus* as specifically distinct, more especially as a specimen from Tehuantepec, although evidently belonging to the last-named variety of Suffrian, again differs in colour.

10. **Scolochrus personatus.** (Tab. III. figg. 20 & 22.)

Scolochrus personatus, Suffr. Monogr. vii. p. 133[1].

Hab. Mexico[1], Cordova, Playa Vicente (*Sallé*); British Honduras, Rio Sarstoon (*Blancaneaux*); Guatemala, San Gerónimo, Zapote (*Champion*); Nicaragua, Chontales (*Belt*).

This is another most variable species, founded by Suffrian upon a single female specimen. It may, however, be recognized from others by the transverse black or brown mark at the middle of the elytra, which assumes, however, sometimes the shape of a band, as the figure on our Plate shows. I also refer to this species several specimens from Nicaragua and Mexico which are of a uniform brown colour above, without any trace of darker marks; in general shape and sculpturing they agree, however, with the normal specimens. Of those figured here, the lighter-coloured one has been collected at Zapote, the other at Vera Paz by Mr. Champion.

11. **Scolochrus triangularis.**

Scolochrus triangularis, Suffr. Monogr. xvi. p. 162[1].

Below dark blue or black, covered with thick white pubescence; thorax black, with a purplish gloss, sides closely pubescent; elytra very closely and irregularly punctate-striate, light or dark fulvous, margins and a triangular spot on the disk bluish black.

Length $2\frac{1}{2}$–$3\frac{1}{4}$ lines.

Hab. Panama (*Boucard*).—Colombia[1]; Venezuela; Brazil? (*Clark*).

This species has as yet been only recorded from South America. Two specimens (females) collected by M. Boucard near Panama agree in every thing with the type before me, and may be at once distinguished from varieties of *S. purpurascens* and other similarly coloured species by the close and irregular punctuation of the elytra and the triangular black spot of the latter.

12. **Scolochrus indigestus.**

Scolochrus indigestus, Suffr. Monogr. xvi. p. 79.

Black; head, the anterior angles of the thorax, and the scutellum white; disk of the thorax finely punctate; elytra fulvous, finely punctate-striate, interstices very finely punctured and shining.

Length $2\frac{3}{4}$ lines.

Hab. Mexico.

Founded upon a specimen in Clark's collection, and allied to *S. curtus*, from Cayenne.

13. **Scolochrus fœtens.**

Scolochrus fœtens, Suffr. Monogr. xvi. p. 181[1].

Hab. PANAMA (*Boucard*).—COLOMBIA[1]; BOLIVIA[1].

A specimen from Panama before me belongs to this species of Suffrian, differing in no respect from the Colombian form. The species may be known by its yellowish posterior half, the lateral margin of the thorax and the abdomen being of the same colour.

14. **Scolochrus sulcipennis.**

Scolochrus sulcipennis, Suffr. Monogr. xvi. p. 241[1].

Scolochrus alutaceus, Jacoby, Mittheil. entom. Ver. Münsch. ii. p. 144[2].

Hab. PANAMA (*Boucard*).—COLOMBIA, Bogota[1], Ocaña[2].

A single specimen of this species from M. Boucard's collection does not differ from the Colombian form, a slight variety of which was described by me erroneously as new under the above synonym. The opaque colour of the upper surface, caused partly by the dense punctuation, will distinguish this species from others.

15. **Scolochrus boucardi.** (Tab. IV. fig. 8.)

Below black and yellow, above bright red; thorax with a semicrescent band at each side black; elytra closely punctate-striate, the sutural and lateral margins and two longitudinal bands connected transversely at two places black.

Length 2½ lines.

Head closely punctate, red; vertex, a central spot, and lower part of face black; thorax with a deep oblique and distinctly punctured groove at each side, rest of the surface very minutely punctate; disk at each side with a very broad curved band (not extending to the anterior margin, but touching the base) and a small central streak black; scutellum black; elytra very regularly and closely punctate-striate, the striæ on the disk wider apart than near the sides, the interstices slightly transversely rugose when viewed in certain lights; a very broad black longitudinal band extends from the base to a little distance from the apex of each elytron, the outer margin of which is concave in the middle, and is connected with the opposite band at and below the middle of the elytra by short transverse branches; below and the anterior legs black, closely pubescent; sides of the abdomen and the other legs yellowish, the latter with a black spot at the middle of the femora.

Hab. PANAMA (*Boucard*).

I am in possession of a single specimen from M. Boucard's collection; and although it is very probable that the peculiar black markings of the elytra may be subject to variation as in so many other species, yet I know of none with which the present one can be confounded, on account of the close elytral punctuation. *T. spadiceus* resembles it in the markings of the thorax, which, however, like those of the elytra, are brown instead of black; moreover the sculpture in the latter species is totally different, as well as the shape of the other markings.

PACHYBRACHYS.

Pachybrachys, Suffrian, Monogr. Linn. Entom. iii. p. 111 (1848, ex Chevrolat).

The species of this genus amount, at present, to about 170. Central America is represented by about twenty-six, Europe by the same number, while North and South America seem to possess the greatest number. From the genus *Scolochrus*, to which the present one is closely allied, it is principally distinguished by the differently-constructed prosternum and the elytral punctuation: yet there are instances in which the separation of the two genera is difficult and unsatisfactory. The elongation of the posterior thighs in the male, to which I have drawn attention in the genus *Cryptocephalus*, is also clearly visible in the genus *Pachybrachys*.

1. **Pachybrachys fenestratus.**

Light brown below; thorax widened behind the middle, surface rather closely and distinctly punctured on the darker parts, more sparingly on the lighter places, light yellow, the disk occupied by a brown n-shaped mark connected at each side with a ring of the same colour: elytra with irregular-shaped deep-punctured striæ, enclosing smooth elevated spaces, of which four are placed in pairs near the sutural margin, a larger transverse space immediately below the shoulder and another similarly-shaped one below the middle near the lateral margin; all these spaces, as well as the apex, are bright yellow and irregularly divided by the brown punctured striæ, of which two unite close to the suture, but at some distance from the apex, and two, enclosing a much wider space, near the lateral margin; a spot at the shoulder, connected by an oblique line extending to the suture, as well as two transverse narrow bands near the lateral margin, dark brown: femora with a whitish spot near the apex.

Length 1½ line.

Hab. Mexico, San Andres, Tuxtla (*Sallé*).

Only a single specimen from M. Sallé's collection is before me, the characteristic sculpture of the elytra of which will not allow it to be confounded with any other species; it approaches, however, in that respect somewhat *T. pumicatus* of Cuba; but may be distinguished from it by the wider and much more distinctly punctured thorax, as well as by the different shape of the elevated spaces and the transverse bands of the elytra. The antennæ in the present specimen are unfortunately wanting.

2. **Pachybrachys hæmatodes.** (Tab. IV. fig. 11.)

Pachybrachys hæmatodes, Suffr. Monogr. vii. p. 150[1].

Deep black; basal joint of the antennæ, sides of the thorax, some more or less distinct spots of the elytra, apex of the pygidium, and the base of the thighs blood-red; the entire upper surface closely pubescent and punctured.

Hab. Mexico, Oaxaca[1], La Parada (*Sallé*).

This species is variable and closely allied to *P. pubescens* (Oliv.) from North America, with which it forms the second group of Suffrian's monograph, both being distinguished from all others by the pubescence which covers their upper parts. The specimen on our Plate is from La Parada, and differs slightly in its colour from the type in the Berlin Museum, which I have examined.

3. **Pachybrachys rubronotatus.** (Tab. IV. fig. 18.)

Black below; head closely and distinctly punctured, light red, the vertex and a central line black; labrum yellow; antennæ two thirds the length of the body, the first six joints fulvous, the rest black; thorax closely and deeply punctate, the sides distinctly widened before the base—black, opaque, the lateral margins, a spot at each side at the base, and a smaller one near the lateral margins, red; elytra rugose punctate, with traces of longitudinal costæ—black, the extreme base, two or three spots at each side, and the apex red; underside closely pubescent, black, femora with a red spot at the base and at the apex, the posterior ones extending beyond the body in the male.

Length $1\frac{1}{2}$ line.

Hab. MEXICO, La Parada (*Sallé*).

A single male of this insect is before me, which, although it seems closely allied to *P. pulvinatus*, Böber., differs sufficiently to be considered distinct. It is distinguished from this species by the shorter antennæ, the colour of the thorax, and that of the legs, according to the description given by Suffrian. *P. trinotatus*, Melsh., which the present species also resembles, has the antennæ and the elytra quite black, the thorax much longer, and is altogether a much larger insect. Another allied species, *P. dilatatus*, Suffr., differs in the fine and remote punctuation of the thorax.

4. **Pachybrachys varicolor.**

Pachybrachys varicolor, Suffr. Monogr. vii. p. 153[1].

Pachybrachys occator, Suffr. ibid. p. 189[2].

Piceous below; legs and sides of the abdomen in the female pale fulvous; head black, margined with yellow round the eyes; thorax closely punctate, black, the margins, a central spot or line, and two spots at the base yellow; elytra more deeply punctured than the thorax, without longitudinal costæ, the interior of all the punctures black, the interstices here and there slightly raised in yellow short spaces; pygidium yellow, with a basal and central black line.

♂. Narrower; thorax with the black parts more distinct and in the shape of an *n*.

Length $1\frac{3}{4}$–2 lines.

Hab. MEXICO[1 2].

The loan of the types in the Berlin Museum enables me to give a new short diagnosis of this species, with which I must unite Suffrian's *P. occator*, which is, in my opinion, nothing but the male insect. Except in size and some small difference in coloration, I cannot find any characters to separate the two species. If one compares Suffrian s descriptions, the similarity must strike any one, allowance, of course, being made for sexual differences. The predominating black colour of the elytra (which, when seen without a glass, appears to form three obsolete transverse bands), and the want of the longitudinal costæ, principally distinguish this species.

5. **Pachybrachys rubro-ornatus.** (Tab. IV. fig. 19.)

Widened posteriorly, black; basal half of the thorax red; elytra subrugose punctate, a lateral longitudinal band and the apex of each elytron yellowish red.

Length $1\frac{1}{2}$ line.

Head very finely and closely punctate, black; clypeus fulvous; labrum yellow; antennæ about half the length of the body, black, the first five or six joints fulvous; thorax not more than twice as broad as long, very closely and equally but rather finely punctate, black, the posterior half in the shape of a transverse band, red, this colour extending higher at the sides than at the middle, and the anterior margin of this band deeply sinuate; elytra widened behind, much deeper and more irregularly punctate than the thorax, the interstices partially transversely wrinkled, the extreme lateral margin anteriorly and the apex yellowish white; each elytron with a longitudinal band which widens towards the apex, but does not quite extend to the latter, reddish; this band commences directly below the shoulder, and is situated close to the lateral margin; underside and legs black, closely pubescent; base of the femora reddish.

Hab. MEXICO, La Parada (*Sallé*).

There are sufficient distinguishing characters to separate this species from *P. subfasciatus*, which it closely resembles in shape. The much finer and closer punctuation of the thorax in the present species, together with the entirely different position and shape of the red colour, will make it recognizable at first sight.

6. Pachybrachys bajulus.

Pachybrachys bajulus, Suffr. Monogr. vii. p. 175.

Hab. MEXICO, Jalapa.

Suffrian says:—"Again very closely allied to *P. infaustus*, Hald., and only distinguished by very fine but acute characters;" but Suffrian very much doubts the specific distinction of *P. infaustus*, and thinks that this species may be identical with *P. atomarius*, Melsh. The principal difference of the species before us consists, first, in the coloration of the thorax, which is divided by two longitudinal yellow stripes extending from the anterior to the posterior margin; secondly, in the evenly rounded lateral margin of the thorax, which in other species is more angulate; and, lastly, in the colour of the pygidium, which has two yellow spots instead of being entirely black. Suffrian's species was described from a single specimen. The type in the Berlin Museum is now before me; but, instead of the thorax being, as stated by Suffrian, divided into three longitudinal spaces, I find the surface covered with irregularly-distributed yellow spots of different shapes; in other respects it agrees with the description.

7. Pachybrachys scenicus.

Pachybrachys scenicus, Suffr. Monogr. vii. p. 194.

Hab. MEXICO.

Not unlike *P. histrio* (Oliv.), but with the thorax more sparingly punctured and the longitudinal elytral costæ distributed over the entire surface. The type, kindly lent to me by Dr. Peters, is distinguished by the large white spots of the elytra, which are surrounded by black lines, of which three, placed triangularly on the disk and the apex of each elytron, are especially prominent.

8. **Pachybrachys irregularis.** (Tab. IV. fig. 12.)

Pachybrachys irregularis, Suffr. Monogr. vii. p. 196[1].

Hab. Mexico, Oaxaca[1], Etla, Cordova, La Parada, Cuernavaca, Orizaba (*Sallé*); Guatemala, San Gerónimo, Zapote, Dueñas (*Champion*).

The long antennæ and the raised smooth triangular patch near the suture of the elytra will help to distinguish this species from others, although the latter character is common to several other species. Some specimens from Etla which are before me are larger and paler than the type in the Berlin Museum, but do not differ materially in other respects.

9. **Pachybrachys labyrinthicus.**

Pachybrachys labyrinthicus, Suffr. Monogr. vii. p. 197[1].

Above obscure yellowish white, with black regularly punctured striæ; below black, with the shoulders and the sides of the abdominal segments white; thorax unevenly and coarsely punctured, the elytra nearly regularly punctate-striate, with distinct longitudinal costæ.

Length $1\frac{5}{12}$ line.

Hab. Mexico[1]: Guatemala, Dueñas (*Champion*).

The above is the substance of Suffrian's diagnosis of this species, which he principally distinguishes by the regularity of the striæ of the elytra. In his long description (the species differing but little from many others) he says, in speaking of the elytra, that they have ten nearly regular striæ, but that the inner ones near the base are a little confused, that the second turns obliquely inwards and returns again further on, inclosing thereby a smooth space (which is also the case with *P. irregularis*) and that the ninth stria is curved above the lateral margin. All this does not seem to imply that regularity upon which Suffrian lays principal stress in distinguishing the species. Through the kind loan of the specimens of this species, as well as those of *P. irregularis* in the Berlin Museum from which Suffrian's descriptions were drawn, I find the principal and somewhat doubtful difference between the two insects to lie in the widened space near the suture of the elytra, which in the present species is drawn out into a longitudinal space, the corresponding part in *P. irregularis* consisting of a round-shaped space; but I have great doubt of the two species being really distinct.

10. **Pachybrachys nebulosus.**

Pachybrachys nebulosus, Suffr. Monogr. vii. p. 202.

Hab. Mexico, Vera Cruz.

Suffrian distinguishes this species from others, and specially from *P. obsoletus*, by the black underside, the much more irregular punctured striæ of the elytra, and the small size, which does not exceed a line. The description was drawn from a female

specimen, and seems scarcely to vary from most of the others belonging to his fourth section.

11. **Pachybrachys incrassatus.**

Pachybrachys incrassatus, Suffr. Monogr. vii. p. 206[1].

Hab. MEXICO, Jalapa[1]; GUATEMALA, San Gerónimo (*Champion*).

The shorter antennæ (which do not extend to half the length of the body), the close and strong punctuation of the thorax, and the irregularly sinuate costæ of the elytra form the principal distinguishing characters of this species, to which I refer a male (a sex unknown to Suffrian) sent by Mr. Champion, and which agrees well enough with the type in the Berlin Museum. The general colour is yellow, with brown lines and punctures.

12. **Pachybrachys longulus.**

Pachybrachys longulus, Suffr. Monogr. vii. p. 207.

Hab. MEXICO.

Again a closely allied species to the preceding ones, but separated by the long and narrow cylindrical body and the white colour at the sides of the abdominal segments. The type in the Berlin Museum is a female, the antennæ of which reach nearly to the end of the body. The elytra are very closely and irregularly covered with brown punctures; and the legs and underside are of the same colour.

13. **Pachybrachys punctatissimus.** (Tab. IV. fig. 20.)

Broad, parallel, brown below; head and thorax closely punctured, the latter with two longitudinal bands and the margins yellow; elytra light yellow, covered closely with brown punctures.

Length $1\frac{3}{4}$–2 lines.

Head exceedingly closely rugose punctate, brown, with irregular spots of yellow; antennæ extending to one third the length of the body, the apical joints rather robust and much widened, black, basal joint fulvous; thorax of equal width, its sides straight, posterior margin distinctly produced at the middle; surface very closely, evenly, and deeply punctate, brown, interrupted here and there by small yellow spots, and divided longitudinally by two bands of the same colour, more or less distinct; scutellum dark brown; elytra punctured like the thorax, the punctures themselves brown, the interstices light yellow, and now and then arranged into smooth, narrow, longitudinal costæ; underside and legs darker or lighter brown; female with some brown spots near the apex of the elytra.

Hab. MEXICO, La Parada, Cuernavaca (*Sallé*).

A species allied to *P. longulus*, Suffr., from which it is distinguished by its shorter body, antennæ, and the very close and rugose punctuation of the head; that of the elytra in *P. longulus* is also finer, and does not extend quite to the apex; and the abdomen in the present species is without the white spots. A specimen in the collection of Mr. Baly slightly exceeds two lines, and is proportionally robust.

14. **Pachybrachys umbraculatus.** (Tab. IV. fig. 14.)

Pachybrachys umbraculatus, Suffr. Monogr. vii. p. 213[1].

Above yellowish, a few longitudinal lines on the thorax, the suture, and a pair of narrow stripes on the elytra black; below black; shoulders and the abdominal sides yellow; legs yellowish white; thorax unevenly and coarsely punctured; elytra regularly punctate-striate, with sinuate, partly interrupted interstices.
Length 2 lines.

Hab. Mexico, Jalapa[1] (*Sallé*).

The type from the Berlin Museum, which is before me, agrees completely with the description of Suffrian; another, from M. Sallé's collection, is lighter—the sixth and seventh rows of the elytra, which in the type are abbreviated by a broad smooth space, are here nearly united; but I fail to find any other differences of importance.

15. **Pachybrachys gregarius.** (Tab. IV. fig. 13.)

Pachybrachys gregarius, Suffr. Monogr. vii. p. 215.

Larger than *P. umbraculatus.* The elytra marked with black and white, and the first striæ surrounding a large triangular smooth space near the suture.

Hab. Mexico[1], Cuernavaca, Juquila (*Sallé*).

The type in the Berlin Museum, which Dr. Peters has kindly lent me for comparison, is a male, not a female, as Suffrian says. Three others, also males, are before me from M. Sallé's collection, which show no material difference. Two other specimens, however, are smaller and lighter-coloured. The species is not difficult to recognize, on account of its elongate triangular space on the elytra, and the strongly marked colour of the latter and of the thorax (which distinguishes it at the same time from *P. labyrinthicus*).

16. **Pachybrachys regularis.** (Tab. IV. fig. 15.)

Elongate, subdepressed; below yellow or black; above yellowish white, the thorax with a distinct M-shaped mark; elytra subgeminate punctate-striate, yellow, with longitudinal, more or less interrupted, dark-brown interstices.
Length 2 lines.
Head yellow, with the base and a longitudinal central line, which divides further down into two branches, deep brown; the light parts impunctate; antennæ of about half the length of the body, with the third joint twice as long as the second, and the fourth joint nearly double as long as the third, black, the basal joints lighter; thorax yellow, with a very dark-coloured well-defined M-shaped mark enclosing on each side another, smaller spot of the ground-colour—the dark places closely, the light ones more remotely punctured; scutellum yellow, margined with brown; elytra subdepressed, slightly transversely depressed towards the middle, with the following punctured dark-brown striæ:—two sutural ones, running nearly parallel with each other, but dividing near the middle, where they enclose a short widened space, and finishing at some distance from the apex; the next pair of striæ are much shorter, and finish a little below the middle; the following pair are a little longer, and interrupted near the middle by a narrow, transverse, smooth place; the last pair are narrowed, or approaching each other, near the middle, and, after curving inwards near the apex, finish in a line with the first pair of striæ; all the spaces included by these punctures are deep brown, but interrupted here and there by the raised smooth ground-colour, which fills out the rest of the intervals between the striæ; the extreme lateral and sutural margins are also dark brown; but the apex remains yellow: pygidium of the same colour, with a short longitudinal central line; underside and legs

darker yellow, finely pubescent; the breast black, or this colour extending on the abdomen as far as the sides of the segments; thighs with a faint brown mark in the middle.

Hab. GUATEMALA, Capetillo, Dueñas (*Champion*).

I cannot find any species with which the present one (of which more than half a dozen specimens are before me) agrees. It ought to be placed, without doubt, in the fifth section, near *P. gregarius*, of Suffrian, and may at once be recognized by the very distinct mark of the thorax. The colour of the underside in these insects does not seem to me to be of much value in their determination, as one before me, which does not differ in other respects, proves. The principal difference between the present species and *P. gregarius* lies in the much shorter thorax and the different direction of the elytral striæ, which do not enclose a large triangular space near the suture, very plainly visible in *P. gregarius*.

17. Pachybrachys cribellatus.

Pachybrachys cribellatus, Suffr. Monogr. vii. p. 221.

Hab. MEXICO.

The type in the Berlin Museum (which I have compared) is a female, which may be known from other species by the very close punctuation of the thorax and the sutural parts of the elytra, in connexion with the small general size and pale colour. Some regular rows of punctures are only visible towards the lateral margins of the elytra.

18. Pachybrachys posticus.

Pachybrachys posticus, Suffr. Monogr. vii. p. 222.

Hab. MEXICO, Jalapa.

Closely allied to the preceding species, but of only half the size, and the smallest species of this genus. The elytra in the only female specimen in the Berlin Museum are still more irregularly punctate, and without any arrangement in rows; the underside also is black.

19. Pachybrachys uniformis.

Black or dark brown below, uniformly light brown above; head and thorax closely and strongly punctured, the latter with an indistinct black M-shaped mark; elytra semipunctate-striate at the outer half, with or without a few black spots near the apex.

Length 2 lines.

Head light brown, the middle and the vertex more or less black, very closely and more strongly punctured than the lighter parts; eyes rather distant in both sexes, and but little emarginate; antennæ of half the length of the body, the third joint but little longer than the second, and the fourth joint nearly double as long as the third, black, the basal joint only lighter brown; thorax distinctly narrowed from the base to the apex, the posterior margin slightly oblique at each side—surface deeply and very closely punctate throughout,

light brown, with a more or less distinct M-shaped black mark; scutellum black; elytra semiregularly punctate-striate at their outer half, irregularly punctured towards the suture, each elytron with two rather distinct and slightly raised interstices from the base to the apex, the others flat and more irregular—a spot at the shoulder, and three others at some distance from the apex, in some specimens obsolete or wanting, black; underside fine silvery pubescent; thighs with a black central spot, extending nearly to the end of the body in the male.

Hab. GUATEMALA, near the city (*Champion*).

This is a closely allied species to *P. cribellatus*, distinguished by the larger size, the black underside and antennæ, and the semidistinct, smooth, longitudinal costæ of the elytra; the latter are also dark brown, instead of light yellow.

20. **Pachybrachys hepaticus.**

Pachybrachys hepaticus, Melsh. Proc. Ac. Phil. iii. p. 171[1]; Suffr. Monogr. vii. p. 223[2].
Pachybrachys punctatus, Hald. Journ. Ac. Phil. ser. 2, iv. p. 257[3].

Hab. NORTH AMERICA, Pennsylvania[1 3].—MEXICO, Jalapa[2], Vera Cruz (*Sallé*); GUATEMALA, Dueñas, Capetillo (*Champion*).

The specimens collected by Mr. Champion agree very nearly with the type in the Berlin Museum, except that they are more robust and more distinctly marked; in other respects I see no material difference.

21. **Pachybrachys pinguis.**

Pachybrachys pinguis, Suffr. Monogr. vii. p. 225.

Hab. MEXICO.

Resembles very much *P. hepaticus*, but is a little smaller and more evenly punctured throughout the entire surface; the elongate light patch at the hinder half of the elytra occupies here the entire apex; head and legs darker. I have also compared this type in the Berlin Museum.

22. **Pachybrachys bifasciatus.** (Tab. IV. fig. 17.)

Below black and yellow; thorax fulvous, the margins and a central spot on the disk yellow; elytra semiregularly punctate-striate, yellow, an interrupted transverse band at the base and another narrower one below the middle black.

Length $1\frac{1}{4}$ line.

Head yellow, the base and a central line brown; eyes closely approached; antennæ very thin and slender, extending to one third the length of the body, the first six joints testaceous, the rest black; thorax very narrow, of nearly equal width and with a distinct transverse groove at each side near the base—surface deeply but remotely punctured, fulvous, all the margins and a central more or less distinct spot bright yellow; scutellum yellow or black; elytra with distinct but posteriorly abbreviated punctured striæ, which run as follows:—an oblique closely approached pair below the scutellum towards the suture, the outer row of which is connected with the third row at its apex, and enclosing a widened smooth space; the fourth and fifth rows nearly parallel, but shorter than the preceding and following ones, and also united at their apex; the interstices mostly raised in smooth spaces of unequal size, the black-coloured portions

consisting of a ring at the base, connected with the sutural and lateral margin, and with another transverse irregular black band near the apex; the latter and all the other spaces bright yellow: pygidium and sides of the abdomen yellow; legs fulvous; breast black.

Hab. MEXICO, Puebla (*Sallé*); GUATEMALA, San Gerónimo (*Champion*).

This species is easily recognizable by the distinct black bands of the elytra and the fulvous thorax; it seems to be allied to *P. mollis*, Hald., but differs in the light underside and the differently coloured thorax. The specimen figured is from San Gerónimo.

23. **Pachybrachys laticollis.** (Tab. IV. fig. 16.)

Black below, above light brown; head and thorax very closely and distinctly punctured, the latter with an *n*-shaped black mark; elytra deeply and irregularly punctured, the interstices distinctly costate near the apex.

Length 2–2¼ lines.

Head yellowish, with a black central line which divides into two branches lower down, rather deeply and closely punctured; antennæ half the length of the body, third joint nearly double as long as the second, third and the following joints still more elongate, the terminal joint long and much widened; thorax very convex and much widened near the base, sides rounded and extending as far as the sides of the elytra, surface impressed throughout with crowded, deep, and rather elongate punctures and numerous small, round, smooth elevations of lighter colour, the ground-colour a light brown, the disk with a distinct *n*-shaped black mark, the sides of which are very wide; scutellum black, the apex yellowish; elytra as wide at the base as the thorax, with about eight very deep costæ, mostly visible near the apex only, but two or three of them extending towards the base, the interstices irregularly and closely punctured, the ground-colour a light brown, the humeral callus, the costæ posteriorly more or less, and the interior of all the punctures black; pygidium black, with two terminal yellow spots; underside black, closely pubescent, the sides of the last abdominal segment and the legs brown or yellowish; hinder thighs with a black central mark.

Hab. MEXICO, Vera Cruz, Cordova, La Parada (*Sallé*); GUATEMALA, near the city, Capetillo, Tocoy, San Gerónimo (*Champion*).

The rather robust shape and large size of this species, together with the other characters given, will help to distinguish it from its allies. The females differ in the want of the dark thoracic mark and, as usual, by the shorter hind thighs. Another special peculiarity of this species consists of the elongate and thickened terminal joint of the antennæ and the broad laterally widened thorax. The figure represents a Mexican specimen. All the specimens from Guatemala differ somewhat in coloration and in having a rather more distinct smooth space on the elytra behind the middle.

24. **Pachybrachys championi.**

Light brown below, yellow above; thorax with an obsolete *n*-shaped brown mark; elytra geminate punctate-striate, the first pair widened at the middle, enclosing a round smooth space.

Length 2¼ lines.

Head closely punctured at the middle, impunctate near the sides, yellow, a central spot and the vertex brown; antennæ half the length of the body, light brown, the apical joints piceous; thorax narrowly transverse, the sides very rounded near the base, rather closely and deeply punctate on the disk, more remotely near the sides—the usual dark mark extending across the entire disk, but rather broken and unconnected, and consisting of dark brown spots; elytra convex, slightly narrowed at the middle, with deep dark-brown

punctured striæ, mostly running in pairs—the first pair enclosing a smooth round space near the suture, connected, but abbreviated, at some distance from the apex, the second pair also connected at its end but much shorter than the first pair, the following rows indicated only by a few punctures below the shoulder, some others at the middle, but placed transversely, and a short curved row near the apex; the shoulder and an indistinct mark at the middle near the lateral margin brown; underside of the same colour; the sides of the abdomen and the base and apex of the legs white.

Hab. GUATEMALA, Panzos (*Champion*).

Of this species a single female only has as yet been captured. There is no doubt that it approaches in its pattern *P. contortus*, Baly, and also *P. clathratus*, Suffr.; it is, however, larger, the thorax is more rounded, and the sculpture of the elytra, although like that of the above-named species, runs differently and is shaped otherwise.

25. **Pachybrachys melanostictus.**

Pachybrachys melanostictus, Suffr. Monogr. vii. p. 191[1].

Hab. NORTH AMERICA, California[1].—MEXICO (*Baly*); GUATEMALA, San Gerónimo (*Champion*).

Only a single specimen has as yet been collected by Mr. Champion, which agrees very nearly with a typical specimen named by Suffrian in Mr. Baly's collection. The elytra in this species have a black spot at the shoulder, and another below the base near the suture, also a raised smooth roundish yellow spot at the middle close to the suture, of which Suffrian makes no mention; the outer parts of the elytra are rather regularly but narrowly costate, the costæ uniting at a little distance from the apex.

26. **Pachybrachys reticulatus.** (Tab. IV. fig. 10.)

Pachybrachys reticulatus, Fabr. Mant. i. p. 84; Suffr. Monogr. xvi. p. 453[1].
Pachybrachys jucundus, Dejean, Cat. 3rd ed. p. 445.

Hab. MEXICO (*Baly*).—VENEZUELA[1]; COLOMBIA[1]; BOLIVIA[1].

Although this species has a wide distribution, it has not yet been recorded from Central America. A specimen, however, is contained in Mr. Baly's collection, which we now figure on our Plate.

Fam. CHLAMYDIDÆ.

Chlamydinæ, Lacordaire, Monogr. in Mém. Soc. Liége, v. (1848).

These curiously shaped and remarkable insects, of which more than 200 species have already been described, have their metropolis in the hotter regions of the New World; very few have been as yet described from the Old World, although Africa and the Malayan Archipelago are not entirely devoid of species. Central America now furnishes us with more than forty species, some of which extend as far south

as Brazil. Their determination is, except in the case of peculiarly-coloured species, often a very laborious and difficult task, inasmuch as a certain system in regard to the elytral and thoracic prominences prevails to a more or less extent in most of the species, which the clearest description cannot always make plain. A great many undescribed species are yet contained in collections. The group has been divided into eight genera.

DIASPIS.

Diaspis, Lacordaire, Mon. p. 646 (1848).

This genus was founded by Lacordaire to include certain species with two distinct scutella, the only instance in which this peculiarity is to be found in the whole of the Coleoptera. At present two species have been described as belonging to this genus, one by Lacordaire, the other by Mr. Baly ; one or two more species, which are contained in the collection of the last-named author, must also be classified with these, as they show two scutella. I must confess, however, that my belief in the stability of the characteristic peculiarity of this genus is somewhat shaken, as I have now before me three specimens of the same species (*Chlamys memnonia*), one of them Lacordaire's type, which shows two scutella and was consequently put by Mr. Baly in the genus *Diaspis*; two other specimens, however, from Mexico and Guatemala respectively, which agree in every thing else with the type, have but *one* scutellum, and no sign whatever is visible of a second one ; I therefore think it not improbable that the visible presence of a second scutellum is due to the imperfect closing of that part of the elytra. In *D. paradoxa* (the type) the fissure is much greater, and consequently the scutellum larger than in any other species which I have seen, where the second scutellum is very narrow and even almost obsolete ; so that, in the case of Lacordaire's *Chlamys mœstifica* and *C. memnonia*, the presence of a second scutellum seems to have escaped this celebrated author's observation. As to the second characteristic, the bifid claw, which is present in *D. paradoxa*, is certainly absent in *D. memnonia*. More material, however, is needed to form a conclusive opinion.

1. **Diaspis paradoxa.** (Tab. V. fig. 2.)

Diaspis paradoxa, Lacord. Mon. p. 646 [1].

Hab. Mexico, Cordova (*Sallé*), Tabasco [1].

The specimen from M. Sallé's collection has the elytral sculpturing less strongly marked than one from Yucatan in the collection of Mr. Baly (which is a female) and the type mentioned by Lacordaire and described as a variety sent to him by Pilate. M. Sallé's specimen is a male, and has the posterior thighs protruding beyond the abdomen.

The second scutellum is also plainly visible in this specimen, which is the second I

have seen agreeing so far perfectly with Lacordaire's views in regard to this species at least. The figure is from a Cordova specimen.

2. **Diaspis mœstifica.**

Chlamys mœstifica, Lacord. Mon. p. 706 [1].

Hab. California [1].—Mexico [1], Juquila, Capulalpam, Vera Cruz (*Sallé*).

On account of the double scutellum, this species must also be placed in the present genus; the second scutellum is very narrow, sometimes almost indistinct; the elytral tubercles are very much raised and acute; the space below the scutellum appears black when viewed in a certain light; and the thorax is acutely bilobed at the top of the callosity. It is not improbable that Lacordaire had for his type specimens which did not show the second scutellum, as it is not likely he would have overlooked it. The specimens before me agree, however, not only with his description but also with two examples in the collection of Mr. Baly, which the latter had also placed in the genus *Diaspis.* The claw is not bifid in the species before me, being only appendiculate.

3. **Diaspis memnonia.**

Chlamys memnonia, Lacord. Mon. p. 708 [1].

Hab. Mexico [1], Cordova (*Sallé*), Yucatan [1] (*Baly*); Guatemala, Zapote (*Champion*).

As already pointed out in my general remarks on this genus, the present species, of which Lacordaire's type is before me (who, however, included it in the genus *Chlamys*), is somewhat puzzling, the three specimens differing inasmuch as one shows two scutella, the other two only one, but they exhibit no other difference whatever. As the type shows, however, two scutella, I think it best to leave the species at present in the genus *Diaspis*, in which it was also placed by Mr. Baly.

CHLAMYS.

Chlamys, Knoch, Neue Beytr. Ins. i. p. 122 (1801).

Since Lacordaire's great monograph but few additional species have been made known to science in this genus, although many are contained in different collections. Those which have been described since by Mr. Baly and myself are from the Amazon Region, where a good many showy species have their *habitat*; those from more northern parts usually assuming more sombre colours. The transverse shape of the antennæ of these insects shows their affinity with the Clythrinæ; the globular shape and metallic colour of their bodies in many instances an equal affinity to the Lamprosominæ. Lacordaire's division into numerous sections, according to the shape of the antennæ, thorax, &c., is often exceedingly difficult to follow, the insects being of a very variable disposition; it would, however, be still more difficult to devise a better system for the determination of

the species, of which neither figures nor descriptions can in all instances give an adequate idea.

1. **Chlamys amœna.** (Tab. V. fig. 4.)

Chlamys amœna, Lacord. Mon. p. 655[1].

Hab. MEXICO[1], Cordova (*Sallé*).

From *C. pavonina* this species is distinguished by its more elongate shape, different prosternum, and the ill-defined black basal patch of the elytra, as well as the three-ridged pygidium. A Cordova specimen is figured.

2. **Chlamys pavonina.** (Tab. II. fig. 23.)

Chlamys pavonina, Lacord. Mon. p. 656[1].

Hab. MEXICO[1], (*Sallé*).

This species may be easily known by the well-defined black elytral spot; it is closely allied to the preceding species; but the differences are pointed out by Lacordaire, and consist principally of the differently-shaped prosternum and metasternum. I find that Lacordaire makes no mention of a tubercle near the suture behind the middle of the elytra, very distinctly visible in the specimens which I have examined. One of M. Sallé's specimens is figured.

3. **Chlamys cinerea.**

Chlamys cinerea, Lacord. Mon. p. 659[1]; Dejean, Cat. 3rd ed. p. 440.

Hab. MEXICO[1], Cordova, Vera Cruz (*Sallé*).—COLOMBIA[1]; PERU[1].

As will be seen above, this species has a wide distribution, and is contained in most collections. The general colour of this insect is leaden, closely covered with whitish hairs; but some specimens have a violaceous tint, and the elytra are totally devoid of the usual protuberances; but a very narrow transverse tubercle is generally visible below the middle near the suture. The posterior legs in the male insect protrude beyond the abdomen in this as in most other species of Chlamydinæ, showing in that respect an analogy with the Cryptocephalinæ.

4. **Chlamys sextuberculata.** (Tab. II. fig. 24.)

Chlamys sextuberculata, Jacoby, P. Z. S. 1879, p. 775[1].

Hab. MEXICO, Juquila (*Sallé*); GUATEMALA, Capetillo, Dueñas (*Champion*[1]).

Although this species is very closely allied to *C. cinerea*, it is well distinguished by its bright metallic blue colour and the stronger punctuation of its elytra. The specific name of *sextuberculata* is scarcely appropriate, as the three tubercles, although more

distinct here, are also present in *C. cinerea*. A good many specimens were received from Guatemala, of which one is figured here.

5. **Chlamys sallæi.** (Tab. IV. fig. 23.)

Oblong-ovate, above dark blue, pubescent; head, posterior margin of the thorax, and the anterior legs bright fulvous.

Length $1\frac{3}{4}$ line.

Head scarcely visibly punctured; antennæ black, their four basal joints fulvous; thorax of nearly the same shape as in *C. cinerea*, very closely punctate, the anterior half dark bluish, the rest fulvous, this colour also extending to the lateral margins; elytra narrowed posteriorly, more strongly and more distantly punctured than the thorax, with a narrow transverse tubercle behind the middle, and two others, more or less distinct, situated respectively in front and behind the transverse one; pygidium fulvous, with a large central blue patch; underside fulvous; centre of the abdomen and the middle part of all the legs, with the exception of the anterior femora, dark blue; prosternum narrowed posteriorly.

Hab. Mexico, Panistlahuca (*Sallé*).

6. **Chlamys gerstæckeri.**

Subquadrate, dark blue and fulvous below, above bluish black, opaque; thorax with a central band and the lateral margins fulvous; head entirely fulvous; elytra rugose-punctate, with a transverse tubercle behind the middle.

Length 2 lines.

Head fulvous, with a slightly impressed central groove; antennæ rather slender, as long as the thorax, fulvous, the apical joints darker; thorax with a moderately high elevation at the middle of the disk, surface closely rugose-punctate and covered with very short and fine white pubescence, bluish black, the middle occupied by a longitudinal bright fulvous band from the apex to the base, but narrowed to a point at the latter place, the lateral margins also narrowly fulvous; scutellum trigonate, impunctate; elytra punctured and pubescent like the thorax, and of the same opaque blackish-blue colour, the base near the scutellum distinctly raised and convex, this convexity fitting into a corresponding concavity at the base of the thorax; a deep oblique depression is situated near the lateral margin at the middle of the elytra, a transverse short tubercle is placed below the middle near the suture, and two others at the same place near the apex; pygidium fulvous, with a central blue spot, traversed through its entire length by a narrow ridge; underside and legs fulvous; breast and centre of the abdomen dark blue; prosternum in shape of a posteriorly narrowed acute ridge.

Hab. Costa Rica (*Mus. Berol.*).

The type of this species, which has been kindly lent to me for description by Dr. Peters, is a male, and is without doubt allied to *C. cinerea* and *C. sextuberculata*, Jac., on account of the shape of its prosternum and the fine pubescence of the upper parts. It is easily distinguished from both by the coloration and the total want of any gloss, as well as by the more distinct and greater number of tubercles on its elytra.

7. **Chlamys episcopalis.** (Tab. V. fig. 3.)

Chlamys episcopalis, Lacord. Mon. p. 666[1]; Dejean, Cat. p. 439.

Hab. Mexico[1], Playa Vicente, Oaxaca (*Sallé*).

Of a brilliant metallic blue colour with purplish reflections. The thorax of this

species is almost perpendicularly elevated, the top of the elevation being narrowly divided by a deep groove. The figure is from the specimen from Oaxaca.

8. **Chlamys maculipes.** (Tab. V. fig. 10.)

Chlamys maculipes, Chevrol. Col. Mex. Cent. ii. 1835; Lacord. Mon. p. 660[1]; Dejean, Cat. 3rd ed. p. 440.

Hab. MEXICO[1], Panistlahuca, Cuernavaca, Cordova, Tehuantepec (*Sallé*); NICARAGUA, Chontales (*Janson*).

This species is not uncommon in Mexico, and varies much in shape and size, some specimens being narrowed posteriorly, while others are nearly square. The same is also the case in regard to the thorax, the latter varying in length and breadth. The species may always be recognized by the two black spots of the thorax, which are denuded of hairs. The specimen figured here is from Chontales.

9. **Chlamys insularis.** (Tab. V. fig. 12.)

Subelongate, robust, black or black and fulvous below and above; thoracic elevation moderately raised, divided and three-tuberculate above; elytra deeply punctured, each elytron with about ten tubercles, the inner sutural one in the shape of a transverse high curved ridge.

Length $1\frac{3}{4}$–2 lines.

Head fulvous, more or less stained with black, distinctly but not very closely punctured; antennæ entirely fulvous, from the third joint to the apical ones transverse; thorax transverse, anterior portion almost perpendicular, posterior elevation moderate, broadly divided at the top, each side of the division with three triangularly placed tubercles or thin ridges; surface irregularly but rather deeply covered with brown punctures, anterior margin broadly fulvous or testaceous, a triangular patch of the same colour situated in front of the scutellum; the latter smooth, fulvous, margined with black; elytra narrowed from the middle to the apex, closely covered with deep, somewhat elongate punctures; each elytron with the following isolated and acute tubercles:—four placed parallel and close to the sutural margin, the second of which consists of a transverse sharp ridge, the outer side of which is slightly curved upwards or rather extended a little distance towards the base, the middle of which is occupied by a large tubercle; two others are placed posteriorly—a small one below the transverse sutural ridge, and a large pointed one near the apex placed outwards at the extreme lateral margin; the latter is accompanied at the middle by another short curved ridge, in front of which two or three more or less distinct tubercles are visible: pygidium distinctly punctured, fulvous, variegated with darker colour, with a very distinct central ridge and several lateral depressions; underside foveolate-punctate; legs with a piceous central patch or entirely fulvous.

Var. Above entirely black, only the anterior part of the thorax and part of the legs spotted with flavous.

Hab. MEXICO, Playa Vicente, Cordova, Juquila (*Sallé*).

The nearest ally to this species seems to be *C. nodosa* and also *C. venusta*, from both of which either colour or differently placed and shaped elytral tubercles divide it. Six specimens are before me for comparison, one of them from the collection of Mr. Baly, marked Mexico, and collected by Pilate. The figure represents a specimen from Juquila.

10. Chlamys hybrida.

Chlamys hybrida, Koll. Mon. Chlam. p. 24, t. 1. fig. 27[1]; Lacord. Mon. p. 689[2].
Chlamys inæqualis, Klug, Ent. Mon. p. 129, t. 8. fig. 12[3].

Hab. MEXICO, Cordova (*Sallé*).—BRAZIL[3], Rio de Janeiro[1 2].

As I have only one specimen from M. Sallé's collection to compare, it would not be prudent to come to a definite conclusion in regard to this species. Two specimens in the collection of Mr. Baly agree very nearly with the Mexican form. The latter however, is slightly more elongate, and the thorax, instead of being partly transversely rugose, is simply punctate, and the channel which divides the elevation is placed more forward; there are also small dark fulvous spots visible on the anterior part. I cannot, however, in default of other characters, find sufficient difference to separate the two forms. Klug's description and figure give no proper idea of the species, the first being too short and obscure, and the second disagreeing with the figure given by Kollar. I very much doubt whether the two insects are identical, although Lacordaire quotes them as such; but neither does his description agree well with that of Kollar.

11. Chlamys frontalis.

Oblong, parallel, subcylindrical, black or black and fulvous below; head fulvous, with a black spot at the base; thorax closely punctured, with a moderately high rounded elevation, black; elytra blackish æneous, each elytron with nine or ten isolated tubercles.

Length 2 lines.

Head closely and finely punctured, fulvous, with a square-shaped or triangular patch at the vertex, blackish; antennæ as long as the thorax, piceous, three or four basal joints fulvous, transverse from the fifth joint; thorax closely rugose-punctate, with a rounded moderately high elevation, the latter furnished at the top at each side with a slightly sinuate ridge diverging towards the anterior margin; in front of the latter several small more or less distinct fulvous spots placed in a crescent are visible; elytra slightly constricted at the middle, distantly punctured, each elytron with nine or ten tubercles placed as follows:—four situated along the suture, the second of which is in shape of a short transverse ridge; four others also placed longitudinally on the disk, the first of which is the largest and situated at the middle of the base; two or three more are seen near the lateral margins; when viewed laterally the first two rows of tubercles form two more or less interrupted lines from the suture to the base: pygidium finely and remotely punctured, blackish, margined in some specimens with fulvous; underside black, varied to a greater or lesser extent, as well as the legs, with fulvous; breast coarsely punctured.

Hab. GUATEMALA, near the city, Dueñas, Capetillo (*Champion*).

From *C. hybrida* and *C. flavifrons*, to which this species is rather closely allied, the much smaller and rounded thoracic elevation, which is not divided by a channel as is the case in the first-named species, the much finer punctuation of the thorax, together with the spotted head and thorax, will divide the present species, of which some specimens have the underside and legs almost entirely fulvous. Ten specimens were collected by Mr. Champion.

12. **Chlamys cœlocephala.**

Chlamys cœlocephala, Lacord. Mon. p. 693[1].

Hab. Mexico, Oaxaca[1].

The excavation of the head and the shape of the epistome form the principal distinguishing features of this species.

13. **Chlamys plicata.**

Chlamys plicata, Fabricius, Ent. Syst. Suppl. p. 111[1]; Oliv. Entom. vi. p. 876, t. 1. fig. 3 *a*, *b*[2]; Lacord. Mon. p. 701[3].

Chlamys gibbosa, Fabr. Gen. Ins. p. 212 (1777); Ent. Syst. i. 2, p. 370; Oliv. Enc. Méth. v. p. 198.

Chlamys tuberosa, Knoch, Neue Beytr. i. 1801, p. 128, t. 4. figs. 1 & 2.

Hab. North America, Texas[1 2].—Mexico[3].

14. **Chlamys assimilis.**

Chlamys assimilis, Klug, Entom. Monogr. p. 239[1]; Dejean, Cat. ed. 3, p. 439; Lacord. Mon. p. 702[2].

Chlamys affinis, Klug, Entom. Monogr. p. 115.

Hab. North America[1 2].—Mexico[1].

This is, according to Lacordaire, a doubtful species, and probably nothing but a small variety of *C. plicata.* The only constant difference, according to the same author, is the division of the lateral elytral ridge into two parts in the first-named species, while in the other one it is entire.

15. **Chlamys tragulus.** (Tab. IV. fig. 22.)

Chlamys tragulus, Lacord. Monogr. p. 710.

Hab. Honduras, Mosquito Territory.

The type of this species contained in the Berlin Museum has been kindly lent to me by Dr. Peters, and is figured on our Plate. The underside, with the exception of the legs and the extreme lateral margin of the thorax, is fulvous, the rest of the surface bronze-coloured. The hump of the thorax is deeply divided by a longitudinal groove; and each side of this hump is again traversed by a shorter groove. The disk of the elytra is nearly black, and limited by an oblique highly-raised ridge extending from the shoulder nearly to the suture.

16. **Chlamys decipiens.**

Chlamys decipiens, Lacord. Monogr. p. 708[1].

Hab. Mexico[1].

17. **Chlamys pilatei.** (Tab. V. fig. 8.)

Ovate, narrowed posteriorly; bronze-coloured; antennæ fulvous; thorax punctate and strigose, with an acute elevation, the latter deeply channelled posteriorly, blackish; elytra reticulate from base to below the middle, this portion velvety black, rest of the surface finely strigose.

Length $1\frac{1}{2}$ line.

Head closely but rather finely punctate; antennæ short, transverse from the sixth joint, fulvous; thorax with an acute and rather high elevation, the top of which is shaped into two points by the deep channel which divides it, and which extends in a less deep groove nearly to the anterior margin; the sides in front of this groove are again more or less deeply longitudinally impressed; when seen in certain lights the whole of the raised portion appears of a velvety black, finely punctate and reticulate, while the sides are very finely strigose and covered with irregular foveas and punctures; scutellum very finely strigose; elytra bronze-coloured or greenish like the thorax, with the anterior portion, from the base to below the middle, of a velvety black when viewed in certain lights, this portion reticulate, with two short oblique ridges, one from the middle of the base, the other from the shoulder, and both joined together at the middle of the disk; the black part of the elytra further limited behind by a short oblique ridge near the apex, the portion in front of the latter with two more or less distinct tubercles, finely strigose and foveolate; pygidium with a distinct central raised line and another more indistinct one at each side, deeply punctate throughout as well as the underside, the punctures of the latter resembling small foveas.

Hab. MEXICO.

The black-shaded thorax, want of the tubercles behind the elytral ridge, together with the smaller size, distinguish this species from *C. mœstifica*, Lac.; while from *C. memnonia* it may be separated by the closely reticulated disk of the elytra and the much less distinct and more posteriorly placed oblique ridge of the elytra, which in *C. memnonia* is joined by another, while here the second ridge is absent.

18. **Chlamys mexicana.**

Chlamys mexicana, Lacord. Mon. p. 745[1]; Dej. Cat. ed. 3, p. 439.

Hab. MEXICO[1].

19. **Chlamys crassa.**

Chlamys crassa, Lacord. Monogr. p. 748.

Hab. MEXICO, Tabasco.

20. **Chlamys luteola.** (Tab. V. fig. 13.)

Chlamys luteola, Germar, Ins. Spec. nov. p. 554; Klug, Ent. Monogr. p. 151, t. 10. fig. 8; Lacord. Mon. p. 752.

Chlamys signata, Koll. Monogr. Chlam. p. 44, t. 2. fig. 47[1]; Dejean, Cat. ed. 3, p. 439.

Hab. MEXICO, Orizaba (*Sallé*).—BRAZIL, Rio de Janeiro[1].

Although the specimen from M. Sallé's collection, which is figured here, differs somewhat from the Brazilian form (the latter country being as yet the only recorded habitat of the species), the differences are not sufficient, in my opinion, to justify the separation of the species. The thorax in the Mexican form is shorter, broader, and the posterior

elevation less developed. The punctuation of the elytra is also less close, and the transverse tubercle of the latter is placed further backwards. Allowance being made, in a variable group like the present, for variation and local difference, it would not be advisable to make it another species, unless more specimens confirm the difference between the Brazilian and Mexican forms.

21. **Chlamys stigmula.** (Tab. II. fig. 25.)

Chlamys stigmula, Lacord. Mon. p. 736[1].

Hab. Mexico[1].

The figure represents a Mexican specimen from the collection of Mr. Baly.

22. **Chlamys ferrugata.** (Tab. V. fig. 5.)

Chlamys ferrugata, Lacord. Mon. p. 762[1]; Dej. Cat. ed. 3, p. 440[2].

Hab. Mexico, Juquila, Cordova, Playa Vicente (*Sallé*).—Brazil[1 2].

This species has as yet only been recorded from Brazil. The Mexican forms before me show but slight variations from the southern ones; they are a little smaller, and the thorax is slightly longer. This species shows two distinct longitudinal depressions, one near the suture, and divided by a short transverse ridge into two parts, the other near the lateral margin in the middle of the elytra. The interior of these depressions is much more darkly marked than the rest of the surface. In the Mexican specimen the underside is more or less mottled with black, and the legs are spotted with the same colour. Lacordaire remarks that Chevrolat's type was sent to him as having come from Mexico; but he regards this statement as erroneous, as Dejean has given Brazil as the true habitat. The specimens in M. Sallé's collection prove that Chevrolat's statement was true, and that the species, like several others, has a wide geographical range. The figure represents a specimen from Cordova.

23. **Chlamys gnatho.**

Chlamys gnatho, Lacord. Mon. p. 766[1].

Hab. Mexico, Tabasco[1].

Lacordaire's description of this species was made from a single specimen, and founded upon an extraordinary development of the left mandible, as well as upon the different sculpture of the elytra. As regards the first character, I have a specimen before me which I must certainly refer to *C. ferrugata*, which shows the same great development of its left mandible, while the other character is absent. It is therefore somewhat doubtful whether Lacordaire's species can stand as a good one, more specimens being required to settle the point.

24. **Chlamys fulvicollis.** (Tab. V. fig. 6.)

Oblong, cylindrical; below black, variegated with rufous; head and thorax fulvous, closely rugose; elytra rufous with black punctures, each elytron with five elevated lines and the interstices excavated, the excavations black.

Length $1\frac{3}{4}$ line.

Head finely rugose, fulvous; antennæ half the length of the thorax, fulvous, the last four joints black; thorax much wider than long, with a rounded and rather high elevation, the latter very obsoletely channelled at its posterior part, surface closely and rather deeply rugose, fulvous, with or without traces of black spots; elytra deeply punctured with five very distinct lines, arranged as follows:—the first, commencing at some distance from the suture, approaching the latter at the middle, and finishing almost directly below the latter; the second line, commencing from the middle of the base, after joining the first by a short transverse line at the middle, runs nearly to the apex of the elytron; both these lines commence with a distinct tubercle at the base; the third line starts between the shoulder and the second line, and, after joining the latter *before* the middle by an oblique branch, continues parallel with the preceding, in a curved shape, to some distance from the apex; the fourth line runs parallel with the lateral margin, and is also joined before the middle to the two preceding ones; the fifth line runs at the posterior part of the elytron almost parallel and very close to the exterior line; the spaces between the first and second and the two following lines are rather deeply excavated and of black colour; apex of the elytra deeply reticulate; pygidium closely rugose, with a central ridge and four more or less distinct black lateral impressions; legs and underside fulvous, variegated with black, deeply punctured; prosternum narrowed behind; elytral suture closely serrate through its entire length.

Hab. Mexico, Juquila, Tehuantepec (*Sallé*).

This is another rather troublesome species to distinguish from the many almost similar ones described in Lacordaire's monograph; and I am in doubt whether to compare it with *C. ferrugata*, *C. mixta*, *C. rimosa*, or others. It will be necessary to follow attentively the direction of the elytral ridges to separate it from the above-named species. The uniform fulvous colour of its thorax, however, together with the deep and black elytral interstices, will help to make it recognizable, although I am not at all certain that it may not represent one or other of Lacordaire's species, if only as a variety. I have, however, three specimens to compare, and cannot find any species with which I may identify it, although *C. mixta* seems to approach it nearest; but from that species the colour, the less strongly rugose thorax, and the extra transverse elytral ridges separate it.

25. **Chlamys stictica.** (Tab. V. fig. 1.)

Chlamys stictica, Lacord. Mon. p. 767[1].

Hab. Mexico[1], Oaxaca (*Sallé*); Guatemala, Zapote, Capetillo (*Champion*).

The light brown general colour closely covered with blackish spots, together with the two dark bands at the thorax, will help to distinguish this species from those which have a similar elytral sculpture. The specimen figured is from Zapote.

26. **Chlamys granulicollis.**

Chlamys granulicollis, Lacord. Mon. p. 768[1].

Hab. Mexico[1], Cordova (*Sallé*).

Three or four almost similarly marked species have been described by Lacordaire and Kollar; and it is very difficult to come to certain conclusions as regards their specific value, it being necessary to compare all the types. Of the present species, to which I refer a single specimen from M. Sallé's collection, Lacordaire says nothing in regard to the length or width of the thorax, which I consider of importance in these similarly coloured insects; but the description agrees in general with the specimen before me; the elytral lines of which Lacordaire speaks may be seen more distinctly if the insect is held sideways, in other positions these lines are almost obsolete and very difficult to follow.

27. **Chlamys gysseleni.**

Chlamys gysseleni, Koll. Mon. Chlamyd. p. 43, t. 2. fig. 46[1]; Lacord. Mon. p. 769[2].
Chlamys granulata, Klug, Ent. Mon. p. 146, t. 10. fig. 3.

Hab. Mexico, Cordova, San Andres, La Parada, Juquila (*Sallé*); Guatemala (*Sallé*).—Brazil, Rio de Janeiro[1 2].

I cannot but refer the specimens from M. Sallé's collection to the Brazilian species, allowing of course for variations natural in countries so far removed: the elytral costæ in the Guatemalan insect are not very distinct; and the elytra are very irregularly foveolate punctate; but in general character I cannot find sufficient ground for separating the two forms. The specimens from Mexico show, again, some difference in the sculpturing of their elytra; so that almost each of them might constitute a species if one drew the line too close; but, on the whole, the same characters are visible in all of them.

28. **Chlamys hypocrita.** (Tab. IV. fig. 21.)

Chlamys hypocrita, Lacord. Mon. ii. p. 772.

Hab. Mexico, Cordova (*Sallé*), Yucatan; British Honduras.—Colombia.

This species is not easy to distinguish from several others belonging to the same group described by Lacordaire. A specimen from Honduras contained in the Berlin Museum is figured here; two others, contained in the collection of M. Sallé, do not quite agree with the Berlin specimen; the elytra are much more deeply sculptured and punctate, the raised costæ much more distinct, in which respect they resemble *C. gysseleni*, Lac., which species, however, varies in other respect; I do not think it therefore advisable to make the above-named specimens new species unless more material should necessitate it, but consider them varieties of *C. hypocrita.*

29. **Chlamys scabiosa.**

Chlamys scabiosa, Lacord. Mon. p. 776[1].

Hab. Mexico[1].

30. **Chlamys insidiosa.**

Chlamys insidiosa, Lacord. Mon. p. 778[1].

Hab. Mexico[1].

This is a species comparatively easy to recognize, on account of the black bands of the thorax and the sharp, thin, and regular ridges of the elytra; the latter are also very closely and finely punctured.

31. **Chlamys clarki.**

Subquadrate, rufous; head finely, thorax granulate punctate; elytra deeply punctured, each elytron with four longitudinal costæ, the first and second and the third and fourth connected with each other by a transverse branch.

Length $1\frac{3}{4}$ line.

Head flat, very finely punctured; antennæ rufous, the last five joints black; thorax much broader than long, with a rather high and rounded elevation, the sides of which are deeply constricted or grooved, while the top is but obsoletely channelled; each side of the thorax near the base also distinctly swollen; surface deeply punctate and granulate, especially at the top of the elevation, where a sharp ridge is visible at each side of the channel; scutellum impunctate; elytra two and a half times as long as the thorax, deeply punctate throughout, each elytron with the following raised lines or costæ:—the first, subtuberculate at its base and end, from the base to the middle of the elytron, parallel with the suture; the second from the middle of the base, where it commences with a tubercle, to nearly the apex, at which place it has considerably approached the suture; this line is joined to the first and third by a transverse branch before and at the middle; the third line runs parallel with the second to the middle of the elytron, where it terminates, or rather is lost, in the network at the apex; the fourth line is placed close to the lateral margin, and joins the third at its end by a rather large and distinct transverse costa; near the apex of the elytra four or five small tubercles are also visible; pygidium closely punctured or finely reticulate, with a smooth central ridge; prosternum greatly narrowed posteriorly.

Hab. Mexico, Cordova (*Sallé*).

Although this is another closely allied species to *C. granulicollis*, *C. pohlii*, and several others of this group, the distinct and more numerous transverse branches of the elytral costæ will help to distinguish the present, although the determination will not be always easy to follow where the insect shows variation.

32. **Chlamys fasciaticollis.** (Tab. V. fig. 7.)

Subquadrate, narrowed behind, black; head, part of the margins, and two oblique longitudinal bands at the thorax fulvous; elytra deeply punctate, each elytron with nine or ten tubercles placed longitudinally underside, pygidium, and legs bluish black, variegated with fulvous.

Length $1\frac{3}{4}$–2 lines.

Head finely and closely punctured, fulvous, with a triangular black spot at the vertex; antennæ rather long, fulvous; thorax nearly three times as broad as long, with a rounded and very moderately elevated hump, the latter with a shallow central channel near the base and two short acute ridges at the top of the elevation; entire surface closely punctured, finer at the sides than towards the middle, fulvous, with two broad irregular-shaped lateral bluish-black bands and a narrow central one, all united at the base into a transverse patch; another round spot is situated at each side and attached to the lateral bands; elytra narrowed behind, the surface closely and deeply punctured, the punctures somewhat arranged in regular rows near the suture, each elytron with the following isolated tubercles—five, of which the middle one is placed transversely, parallel, and close to the suture, one transverse tubercle at the middle of the lateral

margins, and two more or less distinct ones towards the outer side at the apex; the colour does not differ from the dark bands of the thorax; underside fulvous, a spot near the second pair of coxæ, another at the sides of the abdominal segments, and the cavities for the reception of the legs black with a bluish tint; legs fulvous, all the tibiæ and the middle of the posterior femora with a black elongated spot; pygidium closely punctured, with a central smooth line, bluish black, the basal margin fulvous; prosternum very narrowed behind.

Female broader, more square-shaped; underside with the black colour predominating, last abdominal segment with a very shallow fovea.

Hab. MEXICO, Juquila, Cordova, Oaxaca (*Sallé*).

This species may be known by the blackish spot at the base of the fulvous-coloured head and the dark bands of the thorax, which is constant in every specimen, one of which is figured from Oaxaca.

33. **Chlamys kraatzi.** (Tab. V. fig. 11.)

Elongate, subparallel, obscure æneous; antennæ and tarsi fulvous; thorax with a moderately high elevation, deeply channelled, closely and finely punctate; elytra with four longitudinal and two transverse raised lines, the interstices deeply excavated.

Length 2 lines.

Head finely and closely punctate, with a longitudinal short central impressed line; antennæ transverse from the fourth joint, fulvous; thorax exceedingly closely and finely punctured throughout, with a gradually and moderately raised elevation of a round shape deeply divided at the top, the division extending, although less deeply, to the anterior margin; elytra much more distantly and deeply punctured, each elytron with the following raised lines—two oblique costæ running parallel from the base to the suture connected before and at the middle by a highly raised transverse branch, which latter extends also to the third and fourth lines, these last short, the third much shorter than the fourth and interrupted by the transverse costa, but continued behind, and after running parallel and close to the second line is again interrupted by the second transverse costa; this latter forms two convex branches, the outer one connecting the fourth with the third line; interstices excavated near the lateral margin; suture crenulate at its latter half; pygidium very finely punctured near the apex, the rest smooth, opaque, with a narrow but rather deep lateral depression and a short raised central line near the apex; breast deeply, abdomen finely punctate; prosternum greatly narrowed behind; tarsi fulvous.

Hab. MEXICO, Cordova (*Sallé*).

This species is allied to *C. elongata* by its shape, but differs by its dark uniform colour and the very rounded and finely punctured elevation of the thorax.

34. **Chlamys bipunctatus.** (Tab. IV. fig. 24.)

Elongate, subcylindrical, dark blue, opaque; head, thorax, and legs fulvous; thorax with two blue spots; elytra with six longitudinal elevated lines; deeply punctate.

Length $1\frac{1}{2}$ line.

Head rugose, punctate, with a central impressed line; mandibulæ piceous; antennæ of the same colour, the two basal joints fulvous; thorax with a very rounded and rather high elevation, the latter with a shallow groove dividing it through its entire length, basal margin double the width of the anterior one when seen from above; surface rugose throughout, of the same bright fulvous colour as the head, the top of the elevation with two semicrescent dark blue spots; elytra constricted laterally below the middle, punctate anteriorly, transversely wrinkled at their posterior part, each elytron with six very distinct raised costæ, the first from the base to the middle and connected at that place with the second costa running from the middle of the base to the apex in a curved line, the third parallel with the second, but abbreviated behind where it joins the fourth line, which latter is only visible near the apex, the sixth costa runs parallel and

close to the lateral margin, but only at its first two thirds; all the interstices distinctly transversely wrinkled posteriorly or reticulate; pygidium rugose and longitudinally striate at the base, with a distinct elevated central ridge; underside deeply punctate, of the same dark indigo-blue as the elytra, with the exception of the thorax and the legs, which are fulvous.

Hab. MEXICO, Juquila (*Sallé*).

Of this interesting species only one specimen is before me. It belongs, without doubt, to Lacordaire's group containing *C. granulicollis*, *C. pohlii*, and others, but is sufficiently distinguished by its colour.

35. **Chlamys maculicollis.** (Tab. V. fig. 9.)

Elongate, subcylindrical, light yellowish brown, closely covered with black punctures; thorax with a black spot near the base; elytra with five more or less distinct longitudinal costæ.

Length $1\frac{1}{2}$ line.

Head flat, light yellowish, with some more or less closely placed brown punctures; antennæ robust, transverse from the fourth joint, flavous, the three or four apical joints black; thorax twice as broad as long when seen from above, with a high elevation, the latter truncate at the top and divided by a longitudinal groove, the edges of which are acute; surface slightly rugose, more or less closely covered with black punctures, which near the base congregate in such numbers as to form a distinct black patch; scutellum impunctate; elytra of the same colour as the thorax, closely covered with black punctures and the usual more or less distinct longitudinal lines as in *C. stictica* and others; underside and legs light fulvous, the breast sometimes black, also closely covered with dark punctures; claws very distinct and rather long, appendiculate.

Hab. GUATEMALA, near the city, Capetillo, Dueñas (*Champion*).

The elytra in this species do not differ from many belonging to Lacordaire's sixteenth group; the general light colour, dark thoracic basal spot, and the different shape of the latter's callosity, which is not rounded above but truncate, will distinguish the present species, of which eight specimens are before me, which show but slight variation, and of which one from the neighbourhood of the city of Guatemala is figured here.

36. **Chlamys carbonaria.**

Chlamys carbonaria, Lacord. Mon. p. 798[1].

Hab. MEXICO[1].

The very elongate shape of this species, which surpasses in that respect *C. elongata*, will help to distinguish it.

37. **Chlamys modesta.**

Chlamys modesta, Lacord. Mon. p. 803[1].

Hab. MEXICO[1].

38. **Chlamys facialis.**

Chlamys facialis, Lacord. Mon. p. 806[1].

Hab. MEXICO[1].

The elytra of this species are devoid of the usual protuberances, but have three tubercles, of which one is placed at the middle, the others near the sutural and lateral margins towards the apex. The general colour is a brilliant blue.

39. **Chlamys mixta.**

Chlamys mixta, Lacord. Mon. p. 818[1].

Hab. MEXICO, Merida[1], Yucatan; NICARAGUA, Chontales (*Janson*).

The type of this species has a rufous head and the thorax spotted with the same colour. I possess a specimen from Nicaragua which, with the exception of the rufous tarsi and base of the antennæ, is entirely black, and, although differing somewhat in sculpturing from the type, yet not to such a degree as to necessitate considering it a different species, although the thorax in my specimen is more transversely reticulate instead of rugose, and the edges of its elevation are more sharply defined; but, as it does not differ materially in other respects, I must regard it as a variety, unless more specimens should prove the reverse.

40. **Chlamys signaticollis.**

Chlamys signaticollis, Lacord. Mon. p. 839[1].

Hab. MEXICO[1].—COLOMBIA[1].

A species principally distinguished by the sculpture of the thorax, which consists of longitudinal ridges.

41. **Chlamys venusta.**

Chlamys venusta, Lacord. Mon. p. 781[1].

Hab. MEXICO, Oaxaca[1].

This species is principally distinguished by the colour of the thorax and the isolated tubercles of the elytra.

42. **Chlamys pardalis.** (Tab. IV. fig. 25.)

Chlamys pardalis, Lacord. Mon. p. 782[1].

Hab. MEXICO[1], San Andres, Tuxtla (*Sallé*).

This is one of the most easy recognizable species amongst the whole of the Chlamydæ, on account of the spotted upper surface. Two specimens from M. Sallé's collection are before me—one a female from San Andres, which is figured here, the other a male, which does not materially differ, but is a little smaller and devoid of the abdominal fovea.

EXEMA.

Exema, Lacordaire, Mon. p. 844 (1848).

This genus was founded by Lacordaire upon the peculiar shape of the antennæ, of which the last six joints form a transverse mass; the tarsi are also more slender than in the genus *Chlamys*. These characters, however, are of doubtful value, as Lacordaire himself admits. The species are inhabitants of both the New and the Old World, those of the latter comprising only two or three species.

1. Exema dispar.

Exema dispar, Lacord. Mon. p. 850[1]; Dej. Cat. 3rd ed. p. 440.

Hab. NORTH AMERICA[1]; MEXICO, Guanajuato (*E. Dugès, coll. Sallé*); YUCATAN[1]; GUATEMALA, near the city, Dueñas, Zapote, San Gerónimo (*Champion*).

This species seems to have a rather wide geographical range, having been found in nearly every part of the United States and down to Guatemala. Mr. Champion has sent home numerous specimens, which comprise most of the varieties described by Lacordaire. The species is more or less marked with fulvous; but the head seems to be entirely of that colour. The elytral tubercles are for the most part isolated; but even in this respect the species is subject to variation, some specimens having indications of costæ connecting the tubercles distinctly visible.

2. Exema punctatipes.

Exema punctatipes, Lacord. Mon. p. 853[1].

Hab. MEXICO[1].—COLOMBIA[1]; BRAZIL[1].

Lacordaire quotes the above localities of this species as they were labelled according to Chevrolat, Reiche, and others from whom he received his specimens. It requires, however, confirmation whether the present species is in reality so widely distributed. It belongs to the division in which the thorax has six distinctly elevated ridges extending from the base to the apex; in the species before us the intervals between the latter are smooth and the ridges isolated.

3. Exema complicata.

Elongate, black; antennæ obscure fulvous; thorax with a high rounded elevation, six-costate; elytra rugose, subfoveolate, with highly raised short oblique ridges.

Length 1 line.

Head finely rugose punctate, slightly depressed between the eyes; thorax highly elevated posteriorly, its sides rugose punctate, with six distinct longitudinal costæ, which all unite at the base, but the outer ones of which are abbreviated anteriorly, while the preceding are curved outwards at their anterior half; the interstices are irregularly rugose and punctate; and two fine ridges are visible between the posterior portion of the middle costæ; elytra irregularly rugose and transversely wrinkled, with a series of complicated oblique ridges difficult to describe; a short ridge extending from the middle of the base to the

suture at a little distance below the scutellum, the next two of the same length, but united at their ends, and sending off an oblique branch towards the sutural margin below the middle; between this branch and the suture an annular short ridge is situated; and other short longitudinal costæ are placed near the apex, at which place, but near the lateral margin, a distinct tubercle is also visible; pygidium punctured, with a distinct central ridge; underside deeply punctate; prosternum greatly narrowed posteriorly, finishing in an acute point.

Hab. British Honduras, Belize (*Blancaneaux*); Guatemala, San Juan (*Champion*).

This species bears great resemblance in its complicated elytral design to *E. intricata*, but is at once distinguished by the sculpturing of the thorax and the black tarsi, while the difference in the elytral costæ separates it from others of Lacordaire's monograph, its nearest ally being *E. carinaticollis*; that species, however, according to Lacordaire, is devoid of tubercles and costæ at the apical part of the elytra, as well as of the ring-like ridges near the sutural margin.

POROPLEURA.

Poropleura, Lacordaire, Mon. p. 863 (1848).

Six species are at present known of this handsome genus, distinguished from the others of the present group by its simple claws. The species are all of large size, brilliant colour, and distinguished by the acute and high tubercles of their upper surface. Until now the northern and southern parts of South America have been recorded as their only *habitat*.

1. Poropleura bacca.

Poropleura bacca, Kirby, Trans. Linn. Soc. xii. p. 446 (1818); Kollar, Mon. Chlam. p. 6, t. 1. f. 9[1]; Lacord. Mon. p. 868 [2].

Hab. Mexico (*Sallé*).—Brazil [1 2].

One specimen in the collection of M. Sallé, and labelled "Mexico," proves the wide geographical extent of this well-known species, although (if no mistake as to the locality has been made in the present instance) it is somewhat singular that so large and showy a species should have hitherto escaped the collectors in Central America, at least to my knowledge. The specimen before me does not much differ in general from the Brazilian form, but belongs to the obscure bronze-coloured variety, and the thoracic tubercles are less strongly marked.

Fam. LAMPROSOMIDÆ.

LAMPROSOMA.

Lamprosoma, Kirby, Trans. Linn. Soc. xii. p. 445 (1818).

The present subfamily is divided into three genera, one of which is well represented in Central America, one or two species belonging to the other genera having also been

found in Europe and the island of Formosa. There exists without doubt a close relationship between the present insects and the Chlamydidæ, much more so than on the other side to the Eumolpidæ; and in some instances certain species of Chlamydidæ so much resemble some of the Lamprosomidæ that only the examination of the scutellum reveals their proper position. All the species of the present genus are highly metallic and of great brilliancy, and resemble each other very closely, unless examined carefully; and although more than seventy species have been described by Lacordaire, I have found it necessary, from the material before me, to augment their number considerably, several distinctive characters uniting to necessitate their separation from closely allied but distinct forms.

a. *Species not unicolorous above.*

1. Lamprosoma nicaraguense.

Lamprosoma nicaraguense, Jacoby, P. Z. S. 1879, p. 776[1].

Hab. GUATEMALA, Chacoj (*Champion*); NICARAGUA, Chontales (*Belt*[1]).

This species is very closely allied to *L. dives*, Lacord., and is perhaps only a variety of that insect. The differences consist in the deeply concave anterior margin of the epistome, which in *L. dives* is nearly straight, in the colour of the antennæ, which are metallic green in the last-named species, and black (the first joint excepted) in the present one, and in the rather strong elytral punctuation in *L. nicaraguense*. Two more specimens lately received from Mr. Champion are rather smaller, but differ scarcely from the type.

2. Lamprosoma sallæi. (Tab. V. fig. 14.)

Broadly ovate, very convex; aureous below; above obscure dark blue, head, lateral and anterior margin of the thorax, a posterior lateral band of the elytra, and the legs golden aureous; tarsi black.

Length 3 lines.

Head convex, very minutely punctured; anterior margin of the epistome deeply concave; labrum and base of the jaws coloured as the head; antennæ short, black, the first joint cupreous; thorax very convex at the middle, the sides greatly deflexed, lateral margins straight, surface impunctate at the sides, finely punctured at the disk, dark greenish blue, shining, sides occupied by a broad aureous band, which widens anteriorly, and extends along the anterior margin of the thorax in a narrow stripe; elytra scarcely narrowed behind, each elytron with ten regular rows of close and very deep punctures, coloured like the thorax, with a rather broad apical and lateral band of metallic aureous, extending to about one third of their length. Underside and legs aureous; tarsi and sides of the abdomen black; prosternum nearly square-shaped, flat, punctured.

Hab. MEXICO, Tehuantepec (*F. Sumichrast, coll. Sallé*).

Although the present species is again closely allied to *L. dives*, Lacord., and *L. nicaraguense*, Jac., yet there are sufficient notable differences to justify its being considered a new species. The punctuation of the elytra is visible to the naked eye, which is not the case with the other species; the thorax is also differently coloured, and the tarsi are black. One specimen only, which is figured here, is contained in M. Sallé's collection.

3. **Lamprosoma hypochryseum.** (Tab. V. fig. 17.)

Lamprosoma hypochryseum, Baly, Journ. Linn. Soc. xiv. p. 347[1].

Hab. Mexico[1], Cuernavaca (*Sallé*); Guatemala[1].

This species, the type of which is before me, is very closely allied to the preceding ones, but may be at once recognized by the want of the aureous spot at the apex of the elytra; the specimens from Cuernavaca, one of which is figured here, show no difference from the type. Entirely dark-blue specimens have been described by Mr. Baly as a variety; but I doubt very much their identity, as the thorax in the supposed variety is more transverse and not so long, and there is no trace whatever of the bright aureous colour in any part, which is so conspicuous in the type.

4. **Lamprosoma gratum.**

Lamprosoma gratum, Lacord. Mon. p. 608[1].

Hab. Yucatan, Merida[1].

The underside, head, and anterior margin of the thorax in this species is of a metallic but not very brilliant pale green, by which, in connexion with its size of two lines, it may be recognized. I have examined Lacordaire's type in the collection of Mr. Baly, and find nothing to add to the author's description.

5. **Lamprosoma magicum.**

Ovate, convex, black; above dark violaceous blue; head, lateral margin of the thorax, and the apical margin of the elytra coppery red, finely granulate.

Length 2 lines.

Head flat, very finely granulate and minutely punctured; anterior margin of the epistome straight; labrum and antennæ black, first joint of the latter fulvous below; thorax very minutely punctured on the disk, rather deeply so near the base, the sides are occupied by an irregular-shaped broad coppery red band, which has its posterior margin cut obliquely, and extends along the extreme anterior margin of the thorax; elytra scarcely narrowed near the apex, their lateral lobes rounded and not much produced; surface closely and rather deeply punctate-striate, the interstices obsoletely transversely rugose, the apex occupied by a broad, but short, coppery red spot. Underside and legs black, shining; prosternum longer than broad, narrowed at the middle.

Hab. Mexico, Juquila (*Boucard, coll. Sallé*).

This species seems to be very closely allied to *L. scintillans*, Lacord.; but I think it is nevertheless quite distinct. The present insect is longer, the thorax distinctly punctured near the base, and the metallic red bands or spots are not brilliant, but rather opaque, caused by the fine granulations of these parts, while all the rest of the surface is shining, these differences being noticeable to the naked eye. The prosternum is also differently shaped. A single specimen is contained in M. Sallé's collection.

6. **Lamprosoma chapuisi.** (Tab. V. fig. 21.)

Lamprosoma chapuisi, Jacoby, P. Z. S. 1878, p. 983.

Hab. Costa Rica, Volcan de Irazu (*Rogers*); Panama (*Boucard*).

From the preceding species, excepting *L. magicum*, the present one principally differs in its small size, the black underside and tarsi, and the very distinct punctuation of its head and thorax. A specimen lately received from M. Boucard differs from the Costa-Rican specimen in the much wider metallic aureous bands of the thorax, which leave only a central narrow space of the ground-colour, but agrees in all other respects with the type, which is figured here.

7. **Lamprosoma ignicaudatum.**

Lamprosoma ignicaudatum, Lacord. Mon. p. 582.

Hab. Mexico.

This species is coloured like several others, especially like *L. chapuisi*, Jac., but differs in having a smooth head and thorax.

8. **Lamprosoma nigripenne.**

Broadly ovate, very convex anteriorly, black; head, lateral and anterior margin of the thorax aureous, the latter closely punctured; elytra distinctly punctate-striate.

Length 2 lines.

Head moderately convex, very minutely granulate, finely and rather closely punctured; parts of the mouth and the jaws and antennæ black, the latter with the basal joint fulvous below; thorax closely punctured at the disk, obsoletely and finely near the sides, the latter and the anterior margin coloured like the head, rest of the surface black; elytra broad, very convex at the anterior third, thence to the apex greatly deflexed, black, shining, each elytron with ten very distinct rows of punctures; below and the legs black, outside of the anterior and part of the intermediate femora metallic green; prosternum longer than broad, narrowed behind, its surface finely rugose.

Hab. Guatemala, Chacoj (*Champion*).

There will be no difficulty in recognizing this species, the black ground-colour of the elytra and thorax and the broad peculiarly shaped form being its special peculiarities. Only a single specimen was obtained by Mr. Champion.

9. **Lamprosoma chlorizans.** (Tab. V. fig. 20.)

Oblong, convex, black; above dark blackish blue; sides of the thorax and apex of the elytra, as well as the legs, greenish golden; head and thorax finely granulate; elytra deeply punctate-striate.

Length 2 lines.

Head very dark violaceous, minutely granulate and punctured, anterior margin of the epistome moderately concave; jaws black; antennæ black, second and third joints fulvous; thorax much narrowed anteriorly, its sides much rounded near the base, thence to the apex straight, surface very minutely punctured, finely granulate at the golden-coloured portion, the rest of the surface more shining, and in the shape of a dark blue central longitudinal band, which is much widened at the apex; elytra not narrowed posteriorly, very regularly and deeply punctate-striate, dark violaceous, the apex with a short, but broad, metallic greenish-golden band. Underside and the tarsi black; legs greenish golden.

Hab. Mexico, Tuxtla (*Sallé*).

The smaller size, the colour of the head, and the shape of the thoracic metallic lateral bands distinguish this species from all others.

10. **Lamprosoma chrysonotum.**

Lamprosoma chrysonotum, Lacord. Mon. p. 579[1].

Hab. Mexico[1], Cordova (*Sallé*), Jalapa (*Höge*).

The thorax in this species is entirely impunctate, the elytra have a golden spot below the scutellum, and their lateral similarly coloured band is abbreviated anteriorly below the shoulders.

11. **Lamprosoma panamense.**

Oblong, narrowed behind, convex, black; head, lateral margin of the thorax, and the apex of the elytra reddish cupreous; prosternum quadrate.

Length 2 lines.

Head finely granulate, distinctly punctured, with an oblong median depression between the eyes; epistome separated from the face by a distinct transverse groove, its anterior margin almost straight; jaws and antennæ black; thorax more than twice as broad as long, its posterior lobe moderately rounded, upper surface a little more distinctly punctured than the head, especially near the base, the metallic colour, like that of the head, extending broadly at the lateral, more narrowly along the anterior margin, but varying in prominence when seen in different positions; scutellum black; elytra greatly narrowed towards the apex, regularly convex, finely punctate-striate, black, the apex and part of the lateral margin cupreous; underside and legs black; prosternum very nearly square-shaped, rugose-punctate.

Hab. Panama (*Boucard*).

The colour of the upper parts and the posteriorly narrowed shape of the present insect will separate it from any other; and although I possess only one specimen, there is no doubt that it is distinct from any described species, not only in coloration, but in the many other ways described above.

12. **Lamprosoma insigne.** (Tab. V. fig. 18.)

Lamprosoma insigne, Lacord. Mon. p. 576[1].

Hab. Mexico[1], Cuernavaca (*Sallé*), Jalapa (*Höge*).

All the specimens before me have the anterior elytral golden band divided into two spots. The shape of this species is broadly ovate.

13. **Lamprosoma opulentum.** (Tab. V. fig. 23.)

Lamprosoma opulentum, Lacord. Mon. p. 577[1].

Hab. California[1].—Mexico, Juquila (*Boucard, coll. Sallé*).

This and the preceding species are very closely allied in regard to colour, and also rather variable in this respect. The present species is more elongate, narrower, the prosternum longer than in *L. insigne*, and the colour of the head and the legs metallic green, the same parts in the other species being of a more golden or reddish tint. The specimen figured is from Juquila.

14. **Lamprosoma refulgens.** (Tab. V. fig. 22.)

Lamprosoma refulgens, Lacord. Mon. p. 582[1].

Hab. Mexico[1], Playa Vicente, Cordova (*Sallé*, *Höge*); Guatemala, Teleman (*Champion*).

The black underside and the elytral aureous stripe, which extends from the shoulder to the apex, distinguishes this species from its allies. Two specimens in M. Sallé's collection vary in being shorter and rather more strongly punctured at the elytra, while two others have the aureous colour of the thorax interrupted by a rhomboidal violet spot; but as neither of these varieties differs in other respects from Lacordaire's description, it would not be prudent to consider them different species. A single specimen received from Guatemala differs again in the shape of the elytral golden band, which here only occupies the apex, and does not extend to the shoulder; the prosternum is also nearly square. In the absence of more material I am unable to come to a definite conclusion as to the specific value of this Guatemalan specimen.

15. **Lamprosoma bifasciatum.** (Tab. V. fig. 19.)

Ovate, convex, metallic green; thorax finely punctured, with two violaceous longitudinal bands; elytra distinctly punctate-striate, the suture and a longitudinal band at the disk of each elytron, abbreviated behind, violaceous; abdomen black.

Length 2 lines.

Head with a deep longitudinal groove between the eyes, rather closely and somewhat rugose punctate; anterior margin of the epistome concave; antennæ black, the first joint fulvous below; thorax closely and distinctly punctured at the disk, more finely at the sides, coloured like the head, with two broad slightly curved violaceous bands from base to apex; elytra rather deeply punctate-striate, metallic green or aureous, the suture narrowly, and a broad band extending from the shoulder to behind the middle of each elytron, violaceous or purplish; tarsi and abdomen black; prosternum nearly square-shaped, finely punctate.

Hab. Mexico, Tehuantepec, Cuernavaca (*Sallé*).

This species varies in the width of the violaceous bands and the colour of the underside, which is sometimes entirely black. The shape of the insect is exactly that of *L. insigne*; and I have great doubt whether it is not only a variety of that species; but as the specimens before me agree in the shape of their pattern, I must regard them as distinct; moreover the sculpture of the head differs from that of *L. insigne* in having a deep longitudinal groove. The specimen figured is from Tehuantepec.

16. **Lamprosoma elongatum.**

Oblong-ovate, convex, black; head and thorax aureous, the latter with a transverse basal violaceous spot, closely punctured; elytra obsoletely punctate-striate, violaceous, the apex cupreous.

Length 1½ line.

Head convex, with a triangular fovea between the eyes, the surface extremely finely granulate and punctured; anterior margin of the epistome straight; mouth and jaws black; antennæ with the first joint cupreous; thorax closely and much more distinctly punctured than the head, of the same colour as the latter, the base occupied by a narrow transverse blue band, which is widest at the middle; elytra narrow, elongate,

almost cylindrical, their surface very obsoletely punctate-striate, with the exception of the last row of punctures, which is distinct near the apex, the colour is a dark violaceous blue, and the apex is occupied by a broad aureous spot, which extends laterally to nearly half the length of the elytra; underside and legs shining black; prosternum longer than broad, slightly hollowed out along its surface, and with a few punctures.

Hab. MEXICO, Yolotepec (*Boucard, coll. Sallé*).

The coloration of this species is again nearly identical with several others belonging to this division, from all of which it differs, however, in its small size and narrow elongate shape, as well as in the almost obsolete punctuation of the elytra. Only a single specimen is before me.

17. **Lamprosoma ignicolle.**

Lamprosoma ignicolle, Jacoby, P. Z. S. 1880, p. 167.

Hab. BRITISH HONDURAS, river Sarstoon (*Blancaneaux*).

This species may be recognized from all the preceding ones, with each of which it has one or other characteristic mark in common, by the entirely bright reddish golden colour of the thorax, in which respect it resembles *L. refulgens*; but this species is much smaller, and the underside and legs are black, while here they are bright metallic aureous. The species was described by me from a single specimen; and although distinct in regard to its colour from any other, it may yet be but a variety of one or the other allied forms.

18. **Lamprosoma guatemalense.**

Lamprosoma guatemalense, Jacoby, P. Z. S. 1880, p. 168.

Hab. GUATEMALA, Zapote (*Champion*).

Again extremely closely allied to *L. refulgens*, *L. ignicolle*, and others, from which it may be recognized by its small size, and especially by the narrowness of the elytra at their apex, which is almost pointed. The thorax of this species is very closely punctured, and has a violaceous spot at the base, which interrupts the golden colour in its centre, the coloration being exactly like that of *L. cupricolle*, Lacord., from Colombia. That species, however, has, according to its describer, a smooth thorax and obsoletely punctured elytra, which in the present insect are very distinctly punctate.

b. *Species unicolorous above.*

19. **Lamprosoma semiopacum.**

Lamprosoma semiopacum, Lacord. Mon. p. 593 [1].

Hab. YUCATAN, Merida [1].

The opaque head and thorax forms the principal distinguishing character of this species; the type in the collection of Mr. Baly is before me, and agrees perfectly with Lacordaire's description.

20. Lamprosoma testudineum.

Lamprosoma testudineum, Lacord. Mon. p. 598[1].

Hab. MEXICO[1], Tuxtla, Playa Vicente (*Sallé*); NICARAGUA.

This species was founded by Lacordaire upon somewhat slight characters, which are difficult to detect unless the type of this and allied species are before one. The present one is compared with *L. amethystinum*, from which it differs in shape, and the punctuation of its thorax and elytra. I must refer the specimens from the above localities to Lacordaire's species, although the specimens differ slightly amongst themselves. The rather long prosternum (nearly double as long as broad) will help to distinguish the species.

21. Lamprosoma approximans.

Lamprosoma approximans, Lacord. Mon. p. 601[1].

Hab. MEXICO[1], Cuernavaca (*Sallé*); PANAMA (*Boucard*).

Of a uniform brilliant violet-blue above and below, this species, although agreeing with many others in colour, may be recognized by the acutely produced shoulders and distinctly narrowed shape towards the apex. The elytra in this species are very minutely punctured (in one specimen before me almost smooth), and the prosternum is large and slightly broader than long. A specimen from Panama, obtained by M. Boucard, is of a more greenish hue, but scarcely differs from the others in other respects.

22. Lamprosoma laticolle.

Ovate, narrowed behind, metallic blue; above dark violaceous; head and thorax distinctly punctured, the latter three times as broad as long; elytra distinctly punctate-striate.

Length $2\frac{3}{4}$ lines.

Head rather flat, subopaque, with a cruciform depression between the eyes, surface finely and remotely punctured; epistome deflexed, more strongly punctured than the head, its anterior margin concave; antennæ greenish black, the first joint fulvous below, metallic green above; thorax very broad, the sides but slightly deflexed, the basal lobe produced and rather pointed, surface punctured like the head, strongly near the base; elytra showing the greatest convexity near the extreme base when viewed sideways, abruptly declined from there to the apex, surface distinctly but not very deeply punctate-striate, lateral lobe not angulate and but little produced; underside metallic greenish blue; prosternum rather broader than long, slightly excavated, and distinctly rugose-punctate.

Hab. COSTA RICA, Volcan de Irazu (*Rogers*).

The shape of this species, especially that of the thorax, distinguishes it from its allies; the sides of the thorax are scarcely deflexed, while the reverse is the case in most other species, the shape of the elytra in the present one being an additional character. A single specimen was obtained by Mr. Rogers.

23. **Lamprosoma inornatum.**

Lamprosoma inornatum, Jacoby, P. Z. S. 1878, p. 984.

Hab. PANAMA, Chiriqui.

This species has the thorax but slightly depressed laterally, in which respect it approaches *L. laticolle*, but differs from the latter in the black underside, and from that and all other allied species by the greatly deflexed epistome, which is bordered or limited in front by a very distinct ridge, the colour of which is metallic green. In general shape the present insect is much more regularly convex than *L. laticolle*.

24. **Lamprosoma violaceum.**

Lamprosoma violaceum, Jacoby, P. Z. S. 1880, p. 167.

Hab. BRITISH HONDURAS, river Sarstoon (*Blancaneaux*).

The present species was founded by me upon a single specimen from the above locality; the distinguishing characters, taken conjointly, are the perfectly impunctate head, very minutely punctate thorax, with the sides of the latter entirely straight, and the rounded, not acute, lateral lobe of the elytra.

25. **Lamprosoma prosternale.**

Broadly ovate, moderately convex, black; above dark metallic blue or greenish; head and thorax smooth; elytra remotely punctate-striate; prosternum depressed, subconical.

Length 3 lines.

Head rather convex, metallic green, impunctate, anterior margin of the epistome straight; antennæ black, second joint fulvous; thorax rather long, not more than twice as broad as long, the basal lobe acute, surface impunctate; elytra regularly but moderately convex, the apex broadly rounded, each elytron with ten rows of distantly placed but very distinct punctures, which are less strongly impressed towards the apex; underside and legs black; prosternum raised anteriorly in the shape of a narrow cone or protuberance, the sides deflexed, and the base slightly concave, its surface smooth.

Hab. NICARAGUA, Chontales (*Janson*).

This is the only instance known to me of a species belonging to this genus possessing a prosternum shaped as described, by which it may be known from all others. A single specimen is contained in my collection.

26. **Lamprosoma lacordairii.**

Ovate, convex anteriorly, narrowed behind, violaceous blue; head and thorax finely punctured; elytra finely punctate-striate; prosternum broader than long, deeply excavated anteriorly.

Length 3 lines.

Head convex, very minutely punctured; epistome scarcely deflexed, its anterior margin concave, thorax punctured like the head, a little more distinctly at the base, basal lobe not very acute, subrotundate; elytra convex to the anterior first third, thence to the apex regularly rounded, very distinctly punctate-striate, the punctures somewhat irregular laterally, the lateral lobes very acute, pointed and angulate; underside and legs dark violaceous; prosternum very broad, deeply excavated anteriorly, and distinctly punctured.

Hab. MEXICO, Juquila (*Boucard, coll. Sallé*).

On account of its very broad and excavated prosternum, this species must be separated from others of similar coloration; another specimen from Mexico, in my collection, agrees in all respects with that from the collection of M. Sallé.

27. **Lamprosoma nigritarse.**

Ovate, constricted behind, dark violaceous or greenish blue; head impunctate, and thorax minutely punctate; elytra finely punctate-striate; tarsi black; prosternum subquadrate.

Length 2 lines.

Head rather convex, metallic blue, with a more or less distinct longitudinal central groove; epistome scarcely deflexed, its anterior margin concave; thorax rather long, its sides but moderately deflexed, surface scarcely visibly punctured, even under a strong lens; elytra distinctly narrowed behind, rather finely punctate-striate, the lateral lobe angulate, but moderately produced; underside dark violaceous or greenish, legs of a little more brilliant colour; tarsi black; prosternum scarcely longer than broad, slightly excavated at its anterior border.

Hab. MEXICO, Oaxaca, Orizaba (*Sallé*).

A number of distinctive characters are united in the present species to separate it from its allies, its small size, impunctate head, and nearly square prosternum, together with the black tarsi, distinguishing it from others. The only species with which it might be compared in regard to size is *L. amabile*, from which it differs by the smooth head and the colour of the underside. There are five specimens before me which show no material difference.

28. **Lamprosoma amabile.**

Lamprosoma amabile, Lacord. Mon. p. 605 [1].

Hab. MEXICO, Yucatan [1].

The type of this species is before me; and I may add to Lacordaire's description that the thorax of the insect is rather long, and the elytra rather deeply punctured. The black underside and the fine punctuation of head and thorax distinguish the present species from others.

29. **Lamprosoma phyllochroum.**

Lamprosoma phyllochroum, Lacord. Mon. p. 613 [1].

Hab. MEXICO [1], Playa Vicente, Puebla, Orizaba (*Sallé*), Misantla (*Höge*); GUATEMALA [1], Zapote (*Champion*).

The shape of this species is proportionally narrow, oblong, and almost subcylindrical; and the punctures of the elytra approach very closely, the interstices being at the same time somewhat rugose and very finely punctured. Lacordaire only knew the metallic-green form. I have some specimens from Orizaba before me which are entirely dark blue or violaceous, but do not differ in any other respect. A single specimen of this species was also obtained by Mr. Champion.

30. **Lamprosoma smaragdinum.**

Lamprosoma smaragdinum, Lacord. Mon. p. 613[1].

Hab. MEXICO[1], Playa Vicente (*Sallé*).

The type of this species was described from a single specimen. I find in the collection of M. Sallé two others which agree perfectly with the description, except that the prosternum is rather broader than long and its anterior margin distinctly concave. The species is of a rounded subglobular form, which distinguishes it at first sight from its allies.

31. **Lamprosoma viridipes.**

Lamprosoma viridipes, Lacord. Mon. p. 621.

Hab. MEXICO.

32. **Lamprosoma satrapa.**

Lamprosoma satrapa, Lacord. Mon. p. 624.

Hab. MEXICO.

Principally distinguished by its shape, which is the most elongate of the genus, according to Lacordaire.

33. **Lamprosoma splendidum.** (Tab. V. fig. 16.)

Lamprosoma splendidum, Lacord. Mon. p. 612[1].

Hab. MEXICO, Orizaba (*Sallé*); GUATEMALA, Izabal (*Sallé*).—GUIANA, Cayenne[1]; BRAZIL.

Two specimens from Mexico and Guatemala are before me, which differ somewhat from each other, both in shape and colour, the one being of a metallic green, the other of a brilliant aureous above; in the latter specimen the elytra are more narrowed behind than in the other, and the prosternum is broader; but in the general characters of this species, as given by Lacordaire, the differences are too slight in these instances to consider them specific, unless more specimens should prove this to be the case. The specimen on the Plate is figured from the insect from Orizaba.

34. **Lamprosoma politum.**

Lamprosoma politum, Jacoby, P. Z. S. 1880, p. 168.

Hab. MEXICO, Santecomapan (*Sallé*); BRITISH HONDURAS, river Sarstoon (*Blancaneaux*); GUATEMALA, Panima, San Juan, Sinanja valley (*Champion*).

The type of this species was described by me from a single specimen obtained in British Honduras; since then about eight other specimens have been received from

Guatemala, which do not show any difference from the type, except that the thorax is a little more closely punctured. The distinguishing characters of this species are the metallic green upper and underside, the finely punctured head and thorax, and the nearly square rather convex prosternum; the tarsi are black.

35. **Lamprosoma pediculus.** (Tab. V. fig. 24.)

Lamprosoma pediculus, Lacord. Mon. p. 628[1].

Hab. MEXICO[1], La Parada, Oaxaca (*Boucard, coll. Sallé*); GUATEMALA, Chacoj (*Champion*).

This small species seems to be rather subject to variation, several specimens being before me which, although evidently belonging to the same species, yet show a good deal of difference in the shape of their body and its punctuation, the latter being especially very strongly marked in one specimen from La Parada, while the type is supposed to have an almost impunctate head and thorax. But this being the case in one instance only, and the specimen having come from the same locality as the others, I should scarcely be justified in describing it as new. The specimens, again, collected by Mr. Champion are smaller, of a deeper reddish purple, but scarcely vary in other respects, and they may be regarded as local varieties. The specimen figured on the Plate is from La Parada.

36. **Lamprosoma salvini.**

Oblong-ovate, convex, black; above bright metallic green; head minutely granulate and punctured; thorax distinctly punctate; elytra rather strongly punctate-striate; prosternum subquadrate, flat.

Length 3 lines.

Head rather long, extremely finely granulate and punctured; anterior margin of epistome very deeply concave, the lateral angles acutely produced; the space between the eyes with a rather deep oblong fovea; jaws and antennæ black, underside of the first and second joints of the latter fulvous; thorax not more than twice as broad as long, sides moderately deflexed, the median basal lobe rounded, upper surface more distinctly punctured than the head, the punctures distant and, as usually, more deeply impressed towards the base; elytra convex at their first basal third, thence to the apex rapidly declining, the lateral lobe strongly produced and subangulate; surface rather deeply and very regularly punctate-striate; underside and legs black, the latter with a slight metallic-greenish hue; prosternum slightly longer than broad, rugose-punctate.

Hab. GUATEMALA, Panzos (*Champion*).

Very closely allied to *L. speciosum*, Lacord., but differing in the following points: the present species is more elongate, less broad, and less regularly convex, the thorax is distinctly longer and more finely punctured, and its median lobe rounded, not acute; the shape of the epistome is also different. Although only a single specimen has been received from Guatemala, the above differences are too marked for it to be considered identical with *L. speciosum*.

37. **Lamprosoma championi.**

Oblong-ovate, narrowed behind, metallic green; head and thorax extremely minutely punctured; elytra finely punctate-striate, the interstices subrugose; prosternum much broader than long, excavate.

Length $2\frac{1}{2}$ lines.

Head convex, extremely finely punctured, even under a strong lens, with an obsolete median elongate groove, metallic green with a slight brassy reflection; epistome concave, emarginate; jaws black; thorax very moderately deflexed at the sides, coloured and punctured like the head, except near the posterior lobe, where the punctuation is a little stronger; in front of the lobe are two oblique, rather distinct depressions, the apex of the former of a rounded shape; elytra very finely punctate-striate, the interspaces minutely aciculate and subrugose, lateral lobe acute and well produced; underside and legs metallic green; prosternum distinctly broader than long, excavated anteriorly.

Hab. MEXICO, Orizaba (*Sallé*).

Although I have only a single specimen of the present species before me, I have no hesitation in considering it a distinct one. In general shape and colour it agrees with *L. politum*, but is distinguished from that and others by the very fine punctuation of head and thorax, and especially by the shape of the prosternum, which is, to my mind, a good distinguishing character of the present family. In the specimen before me the prosternum is distinctly broader than long, deeply excavated anteriorly, and finely punctured, separating it from its allies.

38. **Lamprosoma balyi.** (Tab. V. fig. 15.)

Oblong-ovate, narrowed behind, metallic cupreous below, above metallic purplish and dark violaceous; head impunctate; thorax finely punctured; elytra distinctly punctate-striate; prosternum much broader than long, deeply excavated.

Length 3 lines.

Head very convex, totally impunctate, bright purplish aureous; epistome with a few punctures, concave-emarginate anteriorly; antennæ black, the first joint metallic green, fulvous below; thorax not more than twice as broad as long, its sides rather rounded, as well as the posterior lobe, surface finely and not very distinctly punctured anteriorly, more deeply near the base, the colour the same as that of the head; scutellum metallic green; elytra showing the greatest convexity near the base, thence to the apex but moderately declining, narrowed behind, the lateral lobe not very produced and rather rounded, each elytron with ten rows of very distinct punctures of rather less brilliant purplish than the thorax, the colour changing almost entirely to dark violaceous when viewed in certain lights; underside and legs of a more metallic greenish tint, the base of the abdomen black; prosternum much broader than long, very deeply excavated anteriorly, the basal margin rounded.

Hab. MEXICO, Yolotepec (*Boucard, coll. Sallé*).

This handsome species cannot easily be confounded with others, on account of the peculiar colour of its upper surface and the very broad and deeply excavated prosternum, its size and posteriorly narrowed shape will also help to distinguish it.

39. **Lamprosoma tibiale.**

Ovate, very convex, distinctly narrowed behind; submetallic bluish green below, above brilliant metallic green; head rugose-punctate; thorax and elytra distinctly punctured; anterior tibiæ sulcate.

Length $2\frac{3}{4}$ lines.

Head flat, irregularly transversely rugose and finely punctured; epistome deeply concave-emarginate; labrum, jaws, and the antennæ black, underside of the first joint of the latter fulvous; thorax rather long for

this genus, not more than twice as broad as long, finely and very distantly punctured on the disk, very deeply near the base; elytra largely and acutely angulate at the sides, deeply punctate-striate, the interstices here and there with a few fine punctures; underside much less brilliant than above, of a bluish tint, the last abdominal segments and the tibiæ nearly black; the anterior pair of the latter longitudinally sulcate through their entire length above; prosternum twice as long as broad, rugose punctate.

Hab. GUATEMALA, Senahu (*Champion*).

There are sufficient distinguishing characters in the present species, of which only a single specimen has been received, to recognize it easily; the only known species with which it may be confounded, on account of the sulcation of its anterior tibiæ, is *L. fornicatum*, Lacord.; from that species the posteriorly narrowed shape, however, as well as its coloration divide it; the rugosity of the head seems to me to be accidental, although I cannot be sure about this, having only a single specimen before me.

40. **Lamprosoma separatum.**

Oblong-ovate, convex, black, above metallic green; head and thorax finely but distinctly punctured, clypeus separated from the face; elytra rather deeply punctate-striate; prosternum slightly longer than broad.

Length $2\frac{1}{2}$ lines.

Head scarcely convex, finely and rather closely punctured; clypeus separated from the face by a distinct and rather deep transverse groove, base of the clypeus raised in the shape of a ridge, its apical portion deflexed, apical margin nearly straight; thorax about twice as broad as long, the sides moderately deflexed, posterior lobe rounded, upper surface punctured like the head; elytra distinctly narrowed posteriorly, the shoulders scarcely prominent, surface very regularly and rather deeply punctate-striate, the interstices smooth and shining; underside and legs black, shining; prosternum flat, a little longer than broad, the sides narrowed at the middle, surface with a few punctures.

Hab. GUATEMALA, Teleman (*Champion*).

A single specimen from the above locality. The shape and separation of the clypeus in the present species will distinguish it from those of similar colour.

41. **Lamprosoma minutum.**

Regularly ovate, short; below black; head and thorax bluish black, the former impunctate; elytra metallic cupreous, distinctly striate-punctate.

Length $\frac{3}{4}$ line.

Head very convex, shining, totally impunctate, anterior margin of the epistome straight; antennæ black, two or three basal joints fulvous; thorax more than three times as broad as long, the sides rounded and very deflexed anteriorly, so that, when viewed from above, the basal portion seems twice as broad as the apical one, surface very minutely punctured, only visible under a strong lens; elytra very convex, slightly narrowed behind, the lateral lobe scarcely produced, surface rather deeply punctate-striate; underside and legs black, shining; prosternum subquadrate.

Var. Entirely dark bluish black or purplish.

Hab. BRITISH HONDURAS, Belize (*Blancaneaux*); GUATEMALA, Izabal (*Sallé*), San Juan, Sinanja valley, Senahu (*Champion*).

Two or three species, resembling partially or entirely the present one in regard to its size, have been described by Lacordaire from South America (*L. trochilus*, *L. longifrons*, and *L. annectens*). The species before us has been sent plentifully from the

localities given above, and differs from *L. trochilus* in its smaller size, colour, and punctuation of the elytra, from *L. longifrons* in the normal shape of its head and general colour, and from *L. annectens* in the punctured thorax and want of the elytral waved striæ. The Honduras specimens belong nearly all to the dark variety, while the typical form has mostly been received from Guatemala, although also intermixed with the darker form.

42. **Lamprosoma godmani.**

Ovate, short, black; head minutely granulate; thorax scarcely visibly punctured; elytra finely punctate-striate.

Length $\frac{3}{4}$ line.

Head rather elongate, convex, very minutely granulate, opaque; antennæ black, the second joint fulvous; eyes very large; thorax rather convex and much deflexed anteriorly, the posterior margin almost straight, surface extremely finely punctured, black, more shining than the head; elytra distinctly narrowed behind, much less convex than is generally the case, rather obsoletely punctate-striate, the interstices somewhat finely rugose; prosternum subquadrate.

Hab. GUATEMALA, Chacoj (*Champion*).

The uniform black colour and finely granulate head will separate this small species from *L. longifrons*, to which it seems closely allied.

43. **Lamprosoma modestum.**

Broadly ovate, short, black; antennæ fulvous; head, lateral margin of the thorax, and the legs metallic green.

Var. Thorax and underside entirely black.

Length $\frac{3}{4}$ line.

Head very finely granulate, metallic green, anterior margin of the epistome nearly straight; parts of the mouth black; antennæ fulvous, the basal joints more or less piceous; thorax nearly four times as broad as long, anteriorly very deflexed, posterior margin nearly straight at the sides, scarcely produced at the middle, surface closely and rather distinctly punctured, black, the sides broadly metallic green; elytra convex, broadly ovate, scarcely narrowed behind, distinctly punctate-striate anteriorly, the punctures diminishing in size towards the apex; underside black; legs more or less metallic green; prosternum broad, slightly broader than long.

Hab. GUATEMALA, Chacoj (*Champion*).

This very small species is evidently closely allied to the preceding one, and is therefore placed here, although its coloration would place it amongst the species of the first section; the much broader prosternum, more distinctly punctured thorax and elytra will distinguish it from *L. godmani*.

44. **Lamprosoma hirta.**

Broadly ovate, convex; underside, head, and lateral margins of the thorax reddish cupreous; above dark violaceous, closely and irregularly punctured and covered with white pubescence.

Length $2\frac{1}{2}$ lines.

Head finely granulate, slightly convex, rather closely and strongly punctured, with a few long hairs in the middle, cupreous, opaque; base of the mandibulæ of the same colour, their apex black; antennæ of the same colour, basal joint cupreous; thorax not more than twice as broad as long, the basal lobe almost

truncate, sides straight, upper surface closely and irregularly punctured and covered rather thickly with long whitish hairs, the lateral margin narrowly cupreous, which colour also extends slightly along the anterior angles, rest of the surface very dark violaceous blue; elytra of the same colour and with the same pubescence as the thorax, the punctures towards the sutures arranged in regular rows, the interstices and the rest of the disk closely covered with smaller punctures; entire underside and the legs coloured like the head, granulate and punctured, of a rather opaque appearance; prosternum subquadrate, rugose-punctate.

Hab. MEXICO, Almolonga (*Höge*).

Of this highly interesting species only a single specimen was obtained by Mr. Höge. It is the only instance known of a true *Lamprosoma* having its upper surface covered with hairs, and is, no doubt, a very rare insect.

Fam. EUMOLPIDÆ.

This great family is well represented in Central America, but, as it seems, more in regard to the number of individuals than of species, not more than about seventy of the latter having, up to the present time, been described. It will, however, be found that many species are common to both South and Central America, a great many hitherto unknown, or at least undescribed, having been lately collected by Mr. Champion in Guatemala, a country of which our knowledge of the number of species belonging to it was previously but scanty, Mexico having furnished us with most of the material. A perfect monograph of the Eumolpidæ is as yet wanting; but both Mr. Baly and the late M. Chapuis have greatly added to our knowledge of the family, the latter's classification (the only one) being of most valuable assistance in clearing up, to a great extent, the chaos which was the rule with most collections in regard to the present family.

CHRYSODINA.

Chrysodina, Baly, Journ. Ent. ii. p. 221 (1864).
Spintherophyta, Dej. Cat. 3rd ed. p. 434.

This genus is principally characterized by its short ovate form and the shape of its antennæ, which have the terminal joints more or less dilated and robust, which is, however, also the case in the allied genus *Noda*—the latter being a more elongate form, with the scutellum of a different shape, an uncertain character rendering the assignment of some species to their respective genera sometimes very difficult and doubtful. Upon the latter character M. Chapuis laid considerable stress. I believe, however, that the terminal joints of the antennæ, which in the present genus are short and almost transverse, while they are more elongate and, although thickened, yet longer in *Noda*, will be of equally valuable assistance in separating the two genera. The only Central-American species of *Chrysodina*

have been described by M. Lefèvre, several others having lately been collected by Mr. Champion and Mr. Höge; all others, to the number of eight, inhabit South America.

1. Chrysodina fuscitarsis.

Chrysodina fuscitarsis, Lefèvre, Ann. Soc. Ent. France, série 5, 1877, p. 116[1].

Hab. MEXICO, Vera Cruz[1], Cordova (*Sallé*), Jalapa (*Höge*); GUATEMALA, Sinanja, Purula (*Champion*); NICARAGUA, Chontales (*Belt*).

The type from M. Sallé's collection is before me, and agrees perfectly with M. Lefèvre's description. A dozen specimens collected by Mr. Champion agree also in every respect with the Mexican insects, except the colour, which is not so brilliant and rather darker; while one specimen from Nicaragua has the tarsi of a testaceous colour and is much smaller.

2. Chrysodina ignita. (Tab. VI. fig. 7.)

Chrysodina ignita, Lefèvre, Ann. Soc. Ent. France, série 5, 1877, p. 116[1].

Hab. MEXICO, Juquila[1] (*Boucard, coll. Sallé*).

I have examined the type also of this species, but fail to discover its specific distinction from *C. fuscitarsis*. The insect, except being rather longer, does not seem to differ sufficiently to justify it being considered another species. The tarsi in *C. fuscitarsis* have also a distinct bluish tint; and in my opinion the two insects are identical. As this opinion is, however, not shared by so good an authority as M. Lefèvre, it will perhaps be better to keep the two species apart till the arrival of more material settles the point.

3. Chrysodina festiva.

Chrysodina festiva, Lefèvre, Ann. Soc. Ent. France, série 5, 1876, p. 117[1].

Hab. MEXICO, Cordova (*Sallé*), Oaxaca[1] (*Boucard, coll. Sallé*), Playa Vicente (*Höge*); BRITISH HONDURAS, Belize (*Blancaneaux*); GUATEMALA, Zapote, Capetillo, Chiacam, San Juan, Chacoj (*Champion*).

This species is shorter and more ovate than the preceding ones; the elytra are more distantly punctured; and the type, which is before me, has two metallic-green spots in front of the antennæ, which in some specimens, however, are wanting. The Guatemalan specimens have the underside in some instances almost black, and vary slightly in the depth of the punctuation of the head, but in general agree well with the type.

4. Chrysodina flavipes.

Oblong, convex; black, above æneous, shining; first six joints of the antennæ and the legs flavous. Length 1–1½ line.

Head deeply and rather closely punctured; thorax and elytra distinctly punctured, the latter punctate-striate and slightly transversely depressed below the base.

Hab. GUATEMALA, Capetillo (*Champion*).

Very closely allied to *C. festiva*, of a more oblong shape, and principally distinguished by the entirely flavous legs. Four specimens were received from the above locality, which show no difference except in size.

5. **Chrysodina corrusca.** (Tab. VI. fig. 2.)

Chrysodina corrusca, Lefèvre, Ann. Soc. Ent. France, série 5, 1877, p. 117[1].

Hab. MEXICO, Vera Cruz[1], Cordova (*Sallé*); GUATEMALA, Chacoj, Cubilguitz (*Champion*).

The head, thorax, and a lateral spot at the apex of the elytra in this species are metallic cupreous; rest of the surface dark blue, in which respect it resembles greatly certain species of *Lamprosomata*. The type of M. Lefèvre I have compared with the specimens sent by Mr. Champion; but the latter do not show any difference. The specimen figured is from Cordova.

6. **Chrysodina ornata.**

Oblong-ovate, greenish blue below; base of the antennæ and the tibiæ fulvous, above metallic blue; thorax and a broad lateral band from the middle to the apex of the elytra metallic cupreous.

Length $1\frac{3}{4}$ line.

Head purplish, lower part greenish blue, rather closely and deeply punctured; antennæ extending to the base of the thorax, the first six joints fulvous, the rest piceous; thorax convex and rather long, much narrowed towards the front, its sides rounded, upper surface reddish cupreous, very finely margined with blue, very closely and rather finely punctured; scutellum blue; elytra regularly punctate-striate, the punctures much larger than those of the thorax, and arranged somewhat indistinctly in double rows, the interstices subcostate towards the apex, of a dark metallic blue; a broad yellowish cupreous band, margined with purplish red, occupies the entire sides from the middle to the apex, without, however, quite extending to either; underside and legs greenish blue; extreme apex of the tibiæ and the tarsi fulvous.

Hab. MEXICO, Cuernavaca (*Sallé*).

There are sufficient differences noticeable in the present insect to distinguish it from *C. corrusca*, to which it is closely allied, the latter being of broader shape and the thorax differently made; the punctuation of the present species is also much closer at the elytra, and the metallic band of the latter extends much higher towards the base.

7. **Chrysodina championi.**

Oblong, bluish black below; above metallic blue; thorax cupreous, closely and distinctly punctured; elytra geminate punctate-striate.

Length $1\frac{3}{4}$ line.

Head rather long, strigose at the vertex; lower part of face closely and deeply punctured, purplish blue; palpi and the first five joints of the antennæ fulvous, the rest black; thorax narrow, transversely convex,

metallic cupreous, finely margined with blue, surface closely but rather finely punctured; scutellum blue; elytra very distinctly geminate punctate-striate, metallic blue; underside and legs blackish blue; tarsi obscure fulvous.

Hab. GUATEMALA, San Gerónimo (*Champion*).

Although I have only one specimen of this species to examine, I believe it to be distinct from *C. corrusca* and *C. ornata*, the differences consisting in the blue head and the absence of the cupreous spot at the apex of the elytra. *C. igneicollis*, Baly, is much larger, and differs in the coloration of its head and underside.

8. **Chrysodina ornaticollis.**

Oblong-ovate, greenish black below; first five joints of the antennæ testaceous; head and thorax aureous, the latter closely punctured; elytra violaceous, strongly punctate-striate; tarsi fulvous.

Length 2 lines.

Head deeply and closely punctured at the vertex, more distantly at the middle; clypeus separated from the face at the sides only, the space in front of the antennæ and the anterior margin of the clypeus metallic blue; antennæ half the length of the body, black, the first five or six joints testaceous; thorax transversely convex, the anterior angles acute and rather thickened, upper surface brilliant aureous, very finely and closely punctured; elytra violaceous blue, strongly and rather regularly punctate-striate, the punctures diminishing at the apex; underside and legs greenish or purplish; tibiæ obscurely, tarsi light fulvous.

Hab. MEXICO, Playa Vicente (*Höge*), Oaxaca, La Parada (*Boucard, coll. Sallé*), Guanajuato (*Dugès, coll. Sallé*).

The principal distinguishing characters of this species are the blue margin of the clypeus, the bright aureous colour and fine punctuation of the thorax, and the colour of the elytra. The general shape of the insect is also more oblong than is usually the case, in which respect it resembles somewhat the species of the genus *Typophorus*.

9. **Chrysodina pubescens** (Tab. VI. fig. 7.)

Oblong, greenish æneous below; base of the femora and of the antennæ fulvous; above light green, opaque, finely subpunctate-striate; elytra and thorax covered with fine whitish hairs.

Length $1\frac{1}{4}$ line.

Head flat, greenish opaque, scarcely visibly punctured; anterior margin of the clypeus concave-emarginate; antennæ robust, nearly as long as half the body, the apical joints gradually widened and thickened, black, first six joints fulvous; thorax transversely convex, sides straight at the base, from there to the apex rounded and narrowed; surface opaque, light green, very minutely punctured and covered with fine silky but short white hairs; scutellum of the same colour; elytra moderately convex, punctured and coloured like the thorax, the punctures, however, placed more or less distinctly in double rows; the interstices pubescent like the thorax, but the hairs set in rather regular lines; underside and legs more shining and darker, the base of the femora, to a larger or smaller extent, fulvous.

Hab. MEXICO, Guanajuato (*Dugès, coll. Sallé*).

In the peculiar colour and pubescence of its upper surface this species forms a great exception to the general rule of the other highly metallic species, but its well-marked generic characters show it to be a true *Chrysodina*. It is another instance, analogous to a true *Lamprosoma* described by me, of a species having its upper surface covered

with hairs. Three specimens of the present insect, of which one is of a more greyish tint, are from M. Sallé's collection.

10. **Chrysodina purpureicollis.**

Oblong-ovate, obscure greenish blue below; antennæ and tarsi piceous, basal joints of the former fulvous; thorax purplish, basal margin metallic green, surface very closely and finely punctured; elytra cupreous, deeply and closely punctate-striate.

Length 1½ line.

Head purplish or metallic green, the vertex finely, lower part of face more strongly punctured; labrum fulvous; four first joints of the antennæ fulvous, the rest black or piceous; thorax purplish, convex, finely margined with metallic blue, very finely and closely punctured; scutellum purplish; elytra cupreous, slightly depressed below the shoulders, surface very closely and rather strongly punctate-striate; inflexed limb purplish; legs æneous or greenish, base of the femora more or less fulvous.

Hab. MEXICO, Oaxaca, La Parada, Yolos (*Boucard, coll. Sallé*).

The fine and close punctuation of the thorax, in connexion with the closely approached and deeply punctured elytral striæ, distinguishes this species well from others, another characteristic peculiarity being the colour of the thorax.

11. **Chrysodina cupriceps.** (Tab. VI. figg. 3, 4.)

Chrysodina cupriceps, Lefèvre, Ann. Soc. Ent. France, série 5, 1877, p. 118[1].

Chalcoplacis instabilis, Jac. P. Z. S. 1879, p. 777[2].

Hab. GUATEMALA, Zapote[2] (*Champion*).—HONDURAS[1] (*Sallé*).

In comparing Lefèvre's type with my own, I find that the two insects are identical, and that, without doubt, the species has been rightly placed by M. Lefèvre in the present genus, the shape of the antennæ having unfortunately been overlooked by me in the single specimen at that time before me. Numerous others have since then been received from Guatemala, but only one from Zapote. The two specimens figured are Lefèvre's type and a more narrow one from Zapote. The species varies from dark blue to bronze-colour, but may be at once recognized by the cupreous colour of the head, although a single specimen has the latter nearly entirely black, this being, however, the only instance among nearly thirty specimens.

12. **Chrysodina marginicollis.**

Oblong-ovate, moderately convex, metallic green below; antennæ black, five or six basal joints obscure fulvous; above æneous or cupreous; head and the lateral and basal margins of the thorax metallic green.

Var. Entirely violaceous blue.

Length 1½–2 lines.

Upper part of the head impressed with deep and oblong punctures; clypeus wedge-shaped, separated from the face by a distinct transverse depression, subrugose-punctate, its anterior margin deeply concave; labrum obscure fulvous, with a metallic green tint; antennæ half the length of the body, the first six joints obscure fulvous, shining, the rest thickened, transverse, opaque; thorax transverse, closely but finely punctured, the basal margin accompanied by a row of stronger punctures, surface cupreous, the lateral margin narrowly and the basal one broadly metallic green; scutellum cupreous; elytra of the same colour,

much more strongly punctured than the thorax, the punctures arranged in regular rows and distinct to the apex, the latter acute and rather pointed; underside and legs metallic green; tarsi darker, with a metallic gloss, those of the male insect dilated (the anterior legs).

Hab. GUATEMALA, Quiché mountains, 7000 to 9000 feet (*Champion*).

A pretty little species, which has only been received from the above locality. It is distinguished by its metallic-green thoracic margins and the underside of the same colour. A single specimen of a uniform violaceous blue colour, which, however, does not differ in any other way, was also received from the same locality.

13. **Chysodina minuta.**

Narrowly oblong, greenish æneous below; legs and antennæ light fulvous; above bronze-coloured or greenish æneous; head and thorax very closely and finely punctured; elytra closely punctate-striate.

Length 1 line.

Head extremely finely and closely, in some specimens almost invisibly, punctured; clypeus not separated from the face, its anterior margin nearly straight; labrum and palpi fulvous; antennæ fulvous, extending to about one third the length of the body; thorax transverse, scarcely narrowed in front, more distinctly and less closely punctured than the head; elytra finely and closely punctate-striate, the punctures towards the apex arranged in lines, those near the lateral margin deeper impressed than the others; legs and tarsi fulvous.

Hab. GUATEMALA, Chiacam (*Champion*).

The very small size, finely and almost obsoletely punctured head, as well as the colour of the legs and the antennæ, will at once separate this species from all others. The narrow and elongate shape, however, makes it doubtful whether its true place is in the present genus. This being, however, the only difference, as far as I am able to make out, I think it is best to include the species here.

14. **Chrysodina hoegei.**

Oblong-ovate, convex, black below; base of the antennæ, the labrum, and legs fulvous; above metallic greenish blue; thorax closely, elytra strongly punctured.

Length $1\frac{1}{2}$ line.

Head longitudinally strigose at the vertex, lower part strongly but not very closely punctured; clypeus distinctly separated from the face, very strongly punctured; first six joints of the antennæ fulvous, the rest black; thorax not more than twice as broad as long, rather convex, its sides nearly straight, surface closely and distinctly covered with oblong punctures; elytra deeply punctate-striate, the punctures nearly as strong at the apex as at the base, the lateral margin accompanied by a distinctly raised costa near the apex; legs and tarsi fulvous.

Hab. MEXICO, Jalapa (*Höge*).

Separable from its allies by its general colour, that of its legs, and by the strong punctuation of the elytra, as well as by the striæ of the head.

CHALCOPLACIS.

Chalcoplacis, Chevrolat in d'Orbign. Dict. Univ. Hist. Nat. 1843, p. 372; Baly, Trans. Ent. Soc. ser. 3, ii. p. 338 (1865).

Like several other allied genera, the present genus bears a great outward resemblance to the Lamprosomidæ, and even to the Coccinellidæ. Up to the present year no species has been described from Central America, all of them, to the number of nineteen, having been found in different parts of South America only.

1. Chalcoplacis fulvipes.

Rotundate, convex, metallic green below; legs and antennæ fulvous; thorax metallic cupreous, margined with green, strongly punctured; elytra dark blue, punctate-striate.

Length 2 lines.

Head metallic green, closely and strongly punctured, with an obsolete longitudinal central groove; clypeus closely and deeply punctured, separated in front from the face by two smooth elevations; antennæ half the length of the body, entirely light fulvous; thorax transversely convex, brilliant cupreous, shading into metallic green at the anterior margin, surface strongly but not very closely punctured; scutellum violaceous, smooth; elytra dark blue, distinctly semiregularly punctate-striate; legs and tarsi fulvous.

Hab. GUATEMALA, Senahu (*Champion*).

Nearly allied to *C. sumptuosa*, Baly, but at once distinguished from that species by the strong punctuation of the thorax.

2. Chalcoplacis jansoni.

Metallic green; antennæ obscure fulvous; above cupreous; head deeply strigose-punctate; thorax strongly and closely punctured; elytra regularly punctate-striate.

Length 2 lines.

Head deeply punctured at the vertex, longitudinally strigose in front of the eyes; clypeus rugose-punctate, limited in front by two strongly raised smooth spaces; labrum and jaws piceous; thorax punctured as in *C. fulvipes*; elytra more strongly punctured than the thorax, the punctures arranged in regular rows; underside and legs metallic green.

Hab. NICARAGUA, Chontales (*Janson*).

Distinguished from all other species by the metallic-green underside and legs, in connexion with the striæ of the head.

PHÆDRA.

Phædra, Dejean, Cat. 3rd ed. p. 438; Chapuis, Gen. Col. x. p. 235 (1874).

The species constituting this genus are but few in number. It was founded upon a small species from Cayenne, in shape and form very like a species of *Coccinella*, and distinguished by the broadness and concavity of the elytral epipleuræ. The latter character, however, is to a less extent to be found in the genus *Chalcoplacis*; and I doubt very much the propriety of separating these two genera, as all the characters are common to both, and the concavity of the elytral epipleuræ seems to vary in the different species.

1. **Phædra maxima.** (Tab. VI. fig. 5.)

Phædra maxima, Lefèvre, Rev. et Mag. Zool. 1875, p. 106[1].

Hab. MEXICO (*Sallé*).—CAYENNE [1].

The general upper colour of this species is a dark leaden blue, the head, legs, and abdomen being of a bright fulvous colour. The Mexican specimen in the collection of M. Sallé, and named by M. Lefèvre, does not vary from the type from Cayenne. Another specimen from the last locality, in my collection, is smaller, but agrees in all other respects.

2. **Phædra dives.** (Tab. VI. fig. 6.)

Phædra dives, Lefèvre, Ann. Soc. Ent. France, 1877, p. 119[1].

Hab. MEXICO, Vera Cruz [1], Cordova (*Sallé*).

The type of this species is before me, and agrees with the description of the author. The underside is of a dark, the upperside of a brilliant metallic green; the antennæ and legs are fulvous; head and thorax very closely and strongly punctured.

LAMPROSPHÆRUS.

Lamprosphærus, Baly, Ann. & Mag. N. H. ser. 3, iv. p. 124 (1859); Trans. Ent. Soc. ser. 3, ii. p. 337 (1865).

The species comprising this genus, to the number of about a dozen, are small and round in shape, in which respect they resemble the genera *Phædra*, *Chalcophyma*, &c.; the thorax in the present genus, however, is devoid of the lateral groove on the underside, and the elytral epipleuræ are less broad. No species has previously been described from Central America, all of them having been obtained in South America.

1. **Lamprosphærus apicalis.**

Ovate, convex, more or less narrowed behind, fulvous; thorax metallic green or black; elytra rather strongly punctate-striate, fulvous, their last third metallic green or blue.

Var. *a.* Thorax, the elytral spot, and the femora and tibiæ black.

Var. *b.* Entirely fulvous.

Length $1\frac{3}{4}$ line.

Head strongly but not very closely punctured, with a more or less distinct longitudinal groove; clypeus triangular, more closely punctured than the head; antennæ two thirds the length of the body, fulvous, the apical joints more or less stained with piceous; thorax not more than twice as broad as long, the anterior margin distinctly produced at the middle, sides evenly rounded, surface finely but distinctly punctured; scutellum fulvous or metallic green; elytra deeply punctate-striate near the base, more finely towards the apex, the interstices near the lateral margin distinctly costate to the apex.

Hab. BRITISH HONDURAS, Rio Hondo, river Sarstoon, Belize (*Blancaneaux*); GUATEMALA, Cubilguitz, Cerro Zunil, Las Mercedes, El Zumbador (*Champion*).

In coloration this species almost entirely resembles *L. hebe*, Baly; it is, however, larger, the thorax is of a different shape, and the elytral punctuation is much stronger in the present insect. It seems, moreover, to be subject to great variation, not only in regard to its colour, but also its shape. I have before me more than a dozen specimens from the above localities; and although without doubt all belong to the same species, scarcely two are exactly alike, some having the shape peculiar to the present genus, while others are much more slender, greatly narrowed behind, in which respect they almost resemble a small species of the genus *Chalcophana*. The thorax is also rather differently shaped than is generally the case with the genus before us; and the first joint of the anterior tarsi in the males is greatly dilated. The insect is either entirely fulvous, or the head, thorax, and elytral spot are of a metallic green, being, however, in one instance black, as well as the femora and tibiæ. I do not see sufficient reason, in spite of the rather different aspect of the insect, to separate it from the genus *Lamprosphærus*, as all the general characters peculiar to it are present.

2. **Lamprosphærus minutus.**

Ovate, short, black below; labrum, antennæ, and legs fulvous; above metallic green; thorax finely, elytra more strongly punctate-striate.

Var. Dark violaceous above.

Length 1 line.

Head with a more or less distinct longitudinal sulcation, rather closely and coarsely punctured towards the clypeus, vertex finely punctate; antennæ of about half the length of the body, light fulvous; thorax about three times as broad as long, its sides evenly rounded, the posterior margin slightly produced at the middle, upper surface rather closely and finely punctured; scutellum impunctate; elytra rather regularly and closely punctate-striate, the punctures strongly impressed near the base, but diminishing in size towards the apex.

Hab. GUATEMALA, Zapote, San Gerónimo, Purula, Senahu, San Juan (*Champion*).

The very small size, and the colour of the antennæ and legs, will distinguish this species from all others.

NODA. =NODONOTA

Noda, Chapuis, Gen. Col. x. p. 240 (1874).

The species composing this genus are mostly of small size, their antennæ having their terminal joints thickened as in the genus *Chrysodina*, but of a more elongate, not transverse shape. The semicircular scutellum is the principal distinguishing character of the present genus, according to Chapuis; but this is not always to be depended on, as some species show great variation in this respect, as well as in many others; in fact, all the species seem subject to great variation in colour and even in sculpture, making their determination a very difficult task. Numerous specimens are generally required in order to arrive at a conclusion as regards many species; and it is particularly necessary to determine the sexes. This is usually not difficult, on account of the dilatation of the

anterior and often also the posterior tarsi in the male, the female generally having the elytra more strongly punctured than the male, and, in addition, in most cases tuberculate or strongly costate. Besides these characteristics, I have found that the first abdominal segment in the female is longer than that of the male, aiding in the recognition of the sex. It is somewhat doubtful whether all the species here described by me are really distinct, as it is often almost impossible to say whether a variety or a species is under examination. Out of the vast material before me I have taken the most prominent forms; and I could easily have doubled their number. But few species have hitherto been described from Central America, the tropical parts of South America having furnished most of the species; they are, however, not entirely strangers to the other parts of the globe, although it is doubtful if those described from the Old World are strictly members of the present genus.

1. **Noda cretifera.** (Tab. VI. fig. 10.)

Noda cretifera, Lefèvre, Rev. et Mag. de Zool. 1875, p. 110[1].

Hab. MEXICO[1], Juquila, Oaxaca, Capulalpam, Yolos, Puebla, Yolotepec (*Boucard, coll. Sallé*), Guanajuato (*E. Dugès, coll. Sallé*); BRITISH HONDURAS, river Sarstoon (*Blancaneaux*); GUATEMALA, Capetillo, Purula (*Champion*).

The female of this species may be recognized by the more or less strongly raised longitudinal costæ near the lateral margin of the elytra, and by a short transverse or oblique wrinkle in front of the latter; the species varies in size from one and a half to two and a half lines, and in colour from dark green to blue; the male is generally smaller, and devoid of the costæ and elytral tubercle. M. Lefèvre evidently only knew the female insect; but I have before me a number from the same locality, which do not differ except in the absence of the elytral elevations, and which I take to be males on account of the dilatation of the anterior first tarsal joint and the longer posterior femora. Two specimens from Yolotepec are much more finely punctured on the elytra, but do not otherwise differ. The figure is from a female specimen from Juquila.

2. **Noda viridis.**

Noda viridis, Jacoby, P. Z. S. 1878, p. 986.

Hab. MEXICO, Cordova (*Sallé*); GUATEMALA, near the city (*Salvin*).

The thorax of the present species is much more transverse than is generally the case, and its surface closely, almost rugose-punctate; the general shape of the insect is more parallel-sided, and but very slightly narrowed towards the apex. The female is not known to me. From *N. lateralis N. viridis* is distinguished by the much finer punctuation of the thorax and the elytra, as well as its smaller size and narrower shape.

3. **Noda irazuensis.**

Oblong-ovate, dark æneous below; legs and base of the antennæ ferruginous; above metallic green, very closely and finely punctured; elytra closely and regularly punctate-striate.

Length 1½ line.

Head remotely and rather finely punctured at the vertex, lower part of face strongly punctured; the clypeus triangular and distinctly separated from the face; antennæ as long as half the body, piceous, the first six joints fulvous; thorax transverse, the sides but very slightly rounded and narrowed in front, surface finely and closely punctured; elytra very closely and regularly punctate-striate, the interstices near the apex slightly costate.

♀. Antennæ shorter; elytra with three very distinct longitudinal costæ near the lateral margin, the first two of which are interrupted below the base and have generally a short transverse tubercle between them.

Hab. Costa Rica, Volcan de Irazu, Cache (*Rogers*).

Nearly allied to *N. costipennis*, Lefèvre, from Brazil, but differing in the more closely and regularly punctured elytral striæ, as well as the lateral costæ, which in the present species are much more regular and less interrupted, the thorax at the same time being much more distinctly punctured. The male of this species is very like that of *N. viridis*, Jac.; the elytral punctuation of the latter species, however, is much finer and more remotely placed, leaving broad interstices between. Numerous specimens were obtained in Costa Rica by Mr. Rogers.

4. **Noda lateralis.**

Oblong, greenish æneous below; antennæ and legs ferruginous, above æneous, metallic green, or blue; thorax closely punctured; elytra distinctly geminate-punctate-striate.

Length 2 lines.

Head strongly and rather closely punctured; clypeus triangular, distinctly separated from the face; labrum and palpi fulvous; antennæ of half the length of the body, entirely ferruginous, the apex of the terminal joint darker; thorax transversely convex, the sides much rounded, anterior and posterior margin nearly straight, surface very closely but rather finely punctate; scutellum much broader than long, pentagonal; elytra rather elongate, much more strongly punctured than the thorax, the punctures arranged in double rows on the disk, but in single lines near the apex; legs and tarsi ferruginous.

♀. Elytra with three strongly raised longitudinal costæ near the lateral margin, of which the second or middle one does not extend to the base, but commences below the middle; the outer costa begins from the shoulder, and runs in a rather oblique line close to the lateral margin; the spaces between them are strongly punctured in single rows; a short tubercle is sometimes present below the base.

Hab. Mexico, Jalapa (*Höge*), Cosamatopan, Juquila, Tepansacualco, Peras, Totonisapan, Silao (*Boucard, coll. Sallé*), Guanajuato (*Dugès, coll. Sallé*); Guatemala, near the city, Capetillo, Zapote, Dueñas (*Champion*), Aceytuno (*Salvin*).

The present species is of a rather elongate shape, and, although closely allied to *N. cretifera* and *N. costipennis*, Lefèvre, may be at once recognized by the colour of the antennæ and the legs; the elytral costæ in the female are also of different shape, and the punctuation is closer; the elytral tubercle below the base is in most instances absent, and only present in a few specimens which do not differ in any other respect. Numerous specimens of this species were sent home by Mr. Champion, principally from Capetillo. Some Mexican specimens from M. Sallé's collection are metallic blue, and

the punctuation is closer and scarcely geminate; but I am not able to discover any other differences, and must consider them local varieties.

5. **Noda costipennis.**

Noda costipennis, Lefèvre, Rev. et Mag. de Zool. 1875, p. 109[1].

Hab. MEXICO, Jalapa (*Höge*).—BRAZIL[1].

I have examined the type of this species in the collection of Mr. Baly, and find it to agree in almost every respect with the specimens collected by Mr. Höge, which vary in colour from dark blue to bronze. The male is, as usual, devoid of the elytral costæ; the insect in general is rather broad and convex, the thorax very finely and closely punctured, and the elytra subgeminate- punctate-striate; from *N. cretifera* it is separated by the want of the oblique elytral costæ and its different general shape.

6. **Noda opaca.** (Tab. VI. fig. 8.)

Ovate, subparallel, blackish blue; thorax convex, very minutely punctured; elytra obsoletely depressed below the base, strongly punctate-striate.

♀. Elytra very finely geminate- punctate-striate, laterally costate, with a short tubercle below the base.

Length 2 lines.

Head finely punctured, more strongly at the clypeus, the latter triangular and separated from the face; antennæ black, the first six joints fulvous; thorax transversely convex, the sides rounded and widened towards the base, extremely finely punctured; elytra closely and rather strongly punctate-striate; legs dark greenish blue.

Hab. MEXICO, Cordova, Tuxtla, Playa Vicente (*Sallé*).

The uniform dark blue, almost black colour, and the very fine punctuation of the thorax form the principal distinguishing features of this species, which seems, however, closely allied to *N. lateralis*, of which species I should have considered it a variety, had I not six specimens to compare, which agree perfectly with each other. The thorax is also less narrowed in front than in *N. lateralis*, and the anterior angles much less produced. The female of the present insect is only to be distinguished from that of the other named species by the colour and the fine double rows of punctures of the elytra. A specimen from Cordova is figured.

7. **Noda thoracica.**

Ovate, convex, parallel, metallic green; head and thorax strongly and very closely punctured; elytra very closely punctate-striate, unicostate near the lateral margin.

Length 2 lines.

Head opaque, finely granulate, covered with deep oblong punctures; clypeus not separated from the face; antennæ black, the first six joints fulvous; thorax rather long, not more than twice as broad as long, sides straight near the base, from there to the apex greatly rounded and slightly narrowed, surface very convex, extremely closely punctured, the sides substrigose, metallic green; elytra very deeply punctured, the punctures arranged in double rows, below the middle the lateral margin smooth and raised into a longitudinal costa; underside and legs darker metallic green; tibiæ dark fulvous.

Hab. MEXICO, Puebla (*Sallé*), Guanajuato (*Dugès, coll. Sallé*).

Although there are of the present insect but two specimens (a male and a female) before me, there is no doubt that they are distinct from any other species, on account of the opaque head and the close and strong punctuation of the thorax, together with the shape of the latter, which is much longer than in any species known to me, and very convex at the same time, as well as the elytra, giving the entire insect a parallel and almost cylindrical appearance. There does not seem to be any great difference between the male and female, if I am not mistaken as to the sexes. *N. strigicollis*, Lefèvre (the type of which I have examined in Mr. Baly's collection), is a closely allied species, but differs completely in the transverse scarcely convex thorax.

8. **Noda subcylindrica.**

Ovate, subcylindrical, metallic green or æneous, first six joints of the antennæ fulvous; thorax remotely punctured at the disk, finely and closely at the sides; elytra strongly punctate-striate.

Length $1\frac{3}{4}$ line.

Head strongly and rather closely punctured; clypeus not separated from the face, but the space in front of it rather rugulose; antennæ black, first six joints fulvous; thorax transversely convex, very little narrowed in front, finely but distinctly punctured, the punctures at the disk much more distant than at the sides, where they are crowded and aciculate; elytra with a very obsolete transverse depression below the base, strongly and closely subgeminate- punctate-striate, the striæ distinctly visible to the apex, but in single rows only; legs entirely metallic æneous or greenish.

Hab. MEXICO, Oaxaca (*Boucard, coll. Sallé*), Cuernavaca, Cordova (*Sallé*).

The principal distinguishing features of this species are its almost cylindrical shape, the fine, close, and aciculate punctuation of the thorax at the sides, and the absence of any costæ at the elytra in both sexes, the male being as usual recognizable by the dilatation of its anterior tarsi. The females are all of the æneous colour and rather more strongly punctured; the elytra are less closely so; and the punctuation is more distinctly arranged in double rows.

9. **Noda lefevrei.**

Noda lefevrei, Jacoby, P. Z. S. 1878, p. 985.

Hab. MEXICO, Tuxtla (*Sallé*); BRITISH HONDURAS, Belize, river Sarstoon, Rio Hondo (*Blancaneaux*); GUATEMALA (*Sallé*); NICARAGUA, Chontales (*Janson*); COSTA RICA, Volcan de Irazu (*Rogers*).

This is a rather small and convex species, of which numerous specimens were obtained by Janson in Nicaragua. The colour of the upper surface varies from æneous to metallic green or blue. The male insect has the elytra much more finely punctured than the female, and is almost devoid of the raised apical interstices, which are very conspicuous in the latter and occupy the entire apex. The species may also be known from others by the dark æneous legs and the fine and rather remote punctuation of the thorax, the latter being at the same time greatly narrowed anteriorly. The species seems to be closely allied to *N. semicostata*, Lefèvre, but differs in the even punctuation

of the thorax, which in the species referred to is finely punctured on the disk and strongly at the sides; the elytra in the present species have also the interstices raised into eight costæ at the apex, while *N. semicostata* has only six.

10. **Noda tarsata.**

Broadly ovate, dark purplish below, base of the antennæ and the legs ferruginous; above metallic green or purplish; thorax finely and closely punctate; elytra punctate-striate; tarsi piceous.

Length 2 lines.

Upper part of the head distinctly but remotely punctured, obsoletely depressed at the middle; clypeus not separated from the face, more strongly and closely punctured than the head; palpi and the first six joints of the antennæ ferruginous; thorax more than twice as broad as long, its sides rounded and distinctly narrowed in front, anterior angles very acute and slightly produced, sides finely margined, surface metallic green, closely and rather evenly covered with fine punctures; scutellum subpentagonal; elytra convex, widened towards the middle, surface finely and rather regularly punctate-striate, the punctures arranged in single rows, the interstices at the extreme apex somewhat raised and very finely transversely wrinkled; tarsi greatly dilated in the male.

♀. Elytra more strongly and more irregularly punctured, the humeral callus distinctly raised and elongate.

Hab. MEXICO, La Parada (*Boucard, coll. Sallé*).

Three specimens of this very distinct species are contained in M. Sallé's collection. The ferruginous legs and piceous tarsi, and especially the broadly ovate shape of the present insect will easily distinguish it from its allies. The only species with which it might be confounded is *N. rufipes*, Lefèvre, which differs in the punctuation of the thorax and the uniformly coloured legs and tarsi.

11. **Noda violaceipennis.**

Noda violaceipennis, Jacoby, P. Z. S. 1878, p. 987.

Hab. GUATEMALA, Aceytuno (*Salvin*), Capetillo (*Champion*).

Of this species, which was described by me from specimens collected by Mr. Salvin, several more have since been received from Mr. Champion, which show no material difference, but belong all to the male sex. The species is of a dark blue; the thorax is transversely convex, finely punctured; and the antennæ and legs are proportionally much longer than is generally the case. The female is unknown to me.

12. **Noda boucardi.**

Noda boucardi, Jacoby, P. Z. S. 1878, p. 986.

Hab. GUATEMALA, Palin (*Salvin*).

In the colour of its upper surface this species is allied to the preceding one, but differs in the red tibiæ and tarsi and the different shape of the thorax, which in the present species is much less transverse and more narrowed in front. From blue specimens of *N. viridis* it is distinguished by the colour of the femora, which in the last-named

species are fulvous, as well as the tibiæ, the whole insect being also of a more cylindrical shape; lastly, from *N. lefevrei* the much finer punctuation of thorax and elytra, in connexion with the colour of the legs, separates it.

13. **Noda atra.** (Tab. VI. fig. 11.)

Noda atra, Harold, Coleopt. Hefte, xiii. p. 31[1].

Hab. MEXICO, Jalapa (*Höge*); GUATEMALA, San Juan (*Champion*); NICARAGUA, Chontales (*Janson*); COSTA RICA, Rio Sucio, Volcan de Irazu (*Rogers*).—COLOMBIA [1].

If I am correct in referring all the specimens which are before me to the same species, the latter has a wide geographical distribution; but I cannot see sufficient differences to separate them. The species is deep black; the thorax rather narrowed in front, and finely but not very closely punctured; and the female has a little tubercle placed below the base. Von Harold has described the species at length. A specimen from Costa Rica is figured.

14. **Noda balyi.**

Noda balyi, Jacoby, P. Z. S. 1878, p. 985.

Hab. MEXICO, Cordova, Toxpam (*Sallé*); GUATEMALA, near the city (*Salvin*).

I now very much doubt the specific distinction of this species and *N. viridis*, Jac., although the present insect is more strongly punctured and the thorax rather more rounded than that of *N. viridis*, which is altogether more cylindrical. The antennæ in the other species are also entirely fulvous, *N. viridis* having black apical joints. As both species were obtained in the same locality by Mr. Salvin, and individuals are in general so variable, I am somewhat doubtful as to their relationship.

15. **Noda igneicollis.**

♀. Broadly ovate, obscure greenish black below; head and thorax strongly and regularly punctured, metallic cupreous; elytra bluish black, finely punctate-striate at the disk, strongly at the sides, the interstices at the latter place longitudinally costate.

Length 2 lines.

Head very strongly and rather closely punctured; clypeus laterally separated from the face by a distinct groove; labrum obscure fulvous; antennæ with the first six joints fulvous, the rest black; thorax twice as broad as long, convex, sides much rounded, and greatly narrowed in front, surface evenly and closely covered with distinct punctures, aureous or cupreous; scutellum rounded; elytra finely geminate- punctate-striate near the suture, transversely depressed below the base, sides strongly punctate-striate, the shoulders and three or four interstices longitudinally costate; underside and legs greenish black, shining, extreme apex of the tibiæ and the tarsi obscure fulvous.

Hab. MEXICO, Panistlahuaca (*Sallé*).

In shape this species approaches closely *N. tarsata*, although it is scarcely so broad and rounded. The colour of the thorax and its close and rather strong punctuation, as well as the very rounded shape of its scutellum, will separate the present species.

16. **Noda cribellata.**

Oblong, greenish æneous below; six basal joints of the antennæ fulvous; above light green or dark brown; thorax subopaque, finely punctured; elytra finely punctate-striate, the interstices near the suture subcostate.

Length $1\frac{1}{2}$ line.

Head finely punctured; clypeus separated from the face, more strongly punctate; antennæ fulvous, the last five joints black; thorax about twice as broad as long, sides much rounded at the middle, the base and apex constricted, surface rather opaque, caused by its scarcely visible granulation, finely punctured; elytra rather elongate, scarcely more shining than the thorax and not more strongly punctured, the punctures arranged in close and single lines, interstices near the apex obsoletely costate; tarsi obscure fulvous.

Hab. MEXICO, Oaxaca (*Boucard, coll. Sallé*), Cordova (*Sallé*).

The upperside of this species is extremely finely granulate, giving it an opaque appearance, although not altogether devoid of gloss; this, as well as the fine punctuation, will distinguish it. The specimen from Cordova is almost black, but agrees in all other respects.

17. **Noda distincta.**

Ovate, obscure æneous below; antennæ and the tarsi light fulvous; above greenish æneous; head, thorax, and elytra extremely closely and rather strongly punctured.

Length 1 line.

Head closely and deeply punctate, the punctures arranged in oblique lines in front of the eyes; clypeus not separated from the face, its anterior margin straight; antennæ fulvous, the last three joints stained with piceous; thorax very transverse, but slightly narrowed towards the apex; sides rounded, surface punctured like the head, extremely closely at the sides, a little more remote on the disk; elytra obsoletely transversely depressed below the base, not more strongly but almost as closely punctured as the thorax, with indications of a linear arrangement near the suture; underside obscure greenish æneous; tarsi bright fulvous; legs finely pubescent.

Hab. MEXICO, Cuernavaca (*Sallé*).

Although only a single male specimen is contained in the collection of M. Sallé, it is sufficient to show that the present species is a very distinct one on account of the dense and strong punctuation of its upper surface, in connexion with the colour of the antennæ and tarsi and its small size.

18. **Noda curtula.** (Tab. VI. fig. 9.)

Subrotundate, convex, greenish æneous below; above bronze-coloured or blue; head strongly, thorax very closely and finely punctate; elytra deeply and closely punctate, more finely at the apex, the interstices more or less distinctly smooth.

Length $1\frac{1}{2}$–$2\frac{1}{2}$ lines.

Head distinctly but rather remotely punctured at the vertex, strongly and closely at the clypeus, the latter more or less distinctly separated from the face by some smooth tubercles at each side; palpi and antennæ black, the first five joints fulvous; thorax transversely convex, the sides much rounded and finely margined; posterior margin greatly produced and evenly rounded at the middle; surface very finely and closely punctured at the sides, more remotely at the middle; scutellum impunctate; elytra distinctly widened towards the middle, strongly and closely punctured at the base, more finely (and the punctures arranged in single rows) towards the apex; some rather broad and smooth interstices are visible more or less plainly near the suture and on the disk; underside and the legs entirely greenish or brownish æneous.

Hab. MEXICO, Oaxaca, Yolos (*Boucard, coll. Sallé*), Cuernavaca (*Sallé*).

From all described species the present one may be at once recognized by its broadly ovate or rounded shape, by the fine and close punctuation of the thorax, and by the generally plainly visible smooth longitudinal spaces of the elytra. Its colour varies from green or blue to dark æneous. The specimen figured is from Oaxaca.

19. Noda dispersa.

Broadly ovate, metallic green; antennæ and legs fulvous; thorax finely and distantly, elytra strongly and very remotely geminate- punctate-striate.

Length 2 lines.

Head with a few deep punctures, especially at the clypeus, the latter not separated from the face; thorax transverse, sides much rounded, the anterior angles acute and produced outwards, surface finely but distantly punctured; elytra broad, convex, and regularly rounded towards the apex, surface deeply and very remotely punctured, the punctuation on the disk arranged in double rows, but singly towards the apex; the outer rows parallel with the lateral margin, but not quite extending to the apex, the two rows which precede abbreviated behind the middle. Female unknown.

Hab. MEXICO, San Andres Tuxtla (*Sallé*).

The deep and remote punctuation of the elytra, in connexion with the colour of the antennæ and the legs, separate the present species from all others. In shape it approaches *N. tarsata*, but differs in its sculpture and the colour of the tarsi.

20. Noda bicallosa.

Broadly ovate, greenish æneous below; antennæ and legs fulvous; above metallic green; thorax closely and distinctly punctured; elytra geminate- punctate-striate, the interstices broad and smooth, each elytron with a longitudinal and transverse tubercle.

Length 2 lines.

Head very deeply and remotely punctured; clypeus separated from the face at the sides only, its anterior margin concave; labrum very narrow, transverse, fulvous; antennæ of the same colour; thorax transversely convex, much narrowed anteriorly, the anterior angles acute but not produced, sides but slightly rounded, surface closely and moderately strongly punctured; elytra distinctly but finely punctate-striate, the punctures arranged in double rows, distinct to the apex, but in single rows only at the latter place, the interstices between them broad and smooth, slightly costate near the apex; a short elongate and another transverse tubercle is placed below the shoulder of each elytron; legs dark fulvous, covered (like the abdomen) with yellowish pubescence. Male unknown.

Hab. GUATEMALA (*Sallé*).

In shape this species resembles *N. dispersa*, *N. curtula*, &c., but differs from all of them in the broad interstices of the elytra and the two tubercles of the latter, in connexion with the colour of the legs.

21. Noda lævicollis.

Narrowly oblong, greenish æneous below; above æneous, opaque; head and thorax impunctate; elytra extremely finely geminate- punctate-striate; legs and base of the antennæ fulvous.

Length 1 line.

Head swollen, totally impunctate, greenish æneous; eyes very distant; antennæ very long, extending to two thirds the length of the body, the first six joints fulvous, the rest black; thorax subquadrate, about one

and a half times as broad as long, surface opaque, perfectly impunctate; elytra minutely geminately punctate-striate, the punctuation entirely disappearing towards the apex, at which place there are faintly impressed lines; legs fulvous.

Hab. MEXICO, Oaxaca (*Boucard, coll. Sallé*).

Three specimens of this very distinct species are before me. Although allied to *N. cribellata*, it is at once distinguished from that species by its totally impunctate head and thorax, its long antennæ, and its fulvous legs.

SPINTHEROPHYTA.

Spintherophyta, Dejean, Cat. 3rd ed. p. 434; Lefèvre, Rev. et Mag. de Zool. 1875, p. 104.

This genus was founded by Dejean (without description) upon certain species now classified under the genus *Chrysodina*. M. Lefèvre applied Dejean's name to two Mexican insects having the general appearance of the members of the last-named genus. The thorax of these insects, however, is much more transverse and of equal width to the elytra; the epistome is deeply emarginate, and the prosternum of different shape. These insects are not altogether strangers to other parts of America, several undescribed species from the Amazons region being contained in collections.

1. **Spintherophyta lesueuri.**

Spintherophyta lesueuri, Lefèv. Rev. et Mag. de Zool. 1875, p. 105 [1].

Hab. MEXICO [1], Toxpam, Cordova (*Sallé*), Jalapa (*Höge*); GUATEMALA, San Joaquin, Balheu (*Champion*).

The male of this species may be known by the greater development of the mandibles and the dilatation of the anterior tarsi. The elytra are closely and not very strongly punctate-striate, and there is no trace of a transverse basal depression.

2. **Spintherophyta cephalotes.** (Tab. VII. figg. 1, 2.)

Spintherophyta cephalotes, Lefèv. Ann. Soc. Ent. de France, 1876, p. 115.

Hab. MEXICO, Cordova (*Sallé*).

From the preceding species the present one is separated by the fulvous antennæ and legs, as well as by the much greater development of the mandibles in the male; the puncturing of the upper parts does not differ much from that of *S. lesueuri*. The types from M. Sallé's collection are figured here, male and female.

3. **Spintherophyta hybrida.**

Oblong-ovate, greenish æneous; antennæ and legs fulvous; head finely rugose; thorax very finely punctured, narrowed and deflexed in front; elytra rugose punctate-striate.

Length $1\frac{3}{4}$ line.

Upper part of the head flat, finely rugose punctate, with a transverse narrow raised line between the eyes

clypeus longitudinally strigose; antennæ rather long, extending further than the base of the thorax; the latter with the anterior portion much deflexed at the sides, upperside very finely and closely punctured; elytra distinctly depressed below the base, much stronger punctured than the thorax; the interstices near the sides slightly wrinkled and longitudinally costate; legs fulvous.

Hab. GUATEMALA, Aceituno (*Champion*).

Only a single specimen from Guatemala is before me; but there is no doubt that, though closely allied to *S. cephalotes*, it belongs to a different species. The thorax when viewed from above looks much narrowed in front, owing to the deflexed sides; the punctuation of the elytra is also much stronger and somewhat rugulose, a character which distinguishes the present species from both the preceding ones; the antennæ are longer; and, lastly, the head is flat and subrugose, instead of convex and remotely punctured.

4. **Spintherophyta guatemalensis.**

Ovate, convex, short, æneous; head strongly strigose and punctured; thorax and elytra strongly and closely punctured, the latter subcostate near the sides; apex of tibiæ and the tarsi fulvous.

Length $1\frac{1}{2}$–2 lines.

Head longitudinally strigose at the vertex; clypeus closely punctured, not separated from the face; antennæ extending further than the base of the thorax, black, the first five joints fulvous; thorax very transverse, scarcely narrowed in front, sides rounded, surface very closely and rather strongly punctured; scutellum smooth; elytra very convex, obsoletely transversely depressed below the base, very closely and strongly punctured; the interstices near the lateral margin costate towards the apex and partly transversely wrinkled; legs æneous, apex of tibiæ and the tarsi fulvous.

Var. Legs entirely fulvous.

Hab. GUATEMALA, San Gerónimo (*Champion*); COSTA RICA (*van Patten*).

Again closely allied to the preceding species, but no doubt distinct. From *S. lesueuri* it is separated by the sculpture of the head, and the much stronger punctuation of the thorax and the elytra, as well as the lateral costæ of the latter, and by the distinctly longer antennæ, while the transverse shape of the thorax and different head, as well as the colour of legs and antennæ, distinguish the present species from *S. hybrida*. Numerous specimens were obtained by Mr. Champion at San Gerónimo, amongst which is only one specimen of the variety. The female has the eyes not quite so widely separated, and the mandibles much less strongly developed. The length of the antennæ will make this species at once known from *S. lesueuri*, in which these organs do not extend beyond the base of the thorax.

AGBALUS.

Agbalus, Chapuis, Gen. Col. x. p. 242.

The partly or entirely pubescent upperside, short, robust antennæ, in connexion with the flat truncate prosternum, are the principal characters upon which this genus was formed by Chapuis upon a single species; since then six more have been described by

M. Lefèvre in the Munich 'Entomologische Mittheilungen.' Whether these latter species belong, strictly speaking, to Chapuis's genus, seems somewhat doubtful to me, as none of M. Lefèvre's species are described as being pubescent on any part. In the species described here the principal characters are present; the general outlines of the insects, however, are at variance with the type; and they may possibly form another genus. The species described up till now have been from South America.

2. Agbalus quadriplagiatus.

Oblong, slightly convex, black; head and thorax finely pubescent; elytra strongly punctate-striate, interstices subrugose, black, an elongate patch, covering the shoulder and the base, as well as a round small spot at the apex light red.

Length 3 lines.

Head closely and distinctly punctured, sides of the vertex substrigose; clypeus broad, limited in front by a shallow depression and two elevated smooth spaces; labrum square-shaped, fulvous, piceous at the middle; left mandible strongly developed; antennæ scarcely half the length of the body, robust, black, second and third joint fulvous, apical joints much thickened, pubescent; thorax transverse, rather convex, sides much rounded, anterior angles produced into an acute tooth, surface very closely punctured, the sides covered with thin but distinct pubescence; scutellum as broad as long, punctured at the middle; elytra about three times as long as the thorax, but slightly convex, covered throughout with deep punctures, arranged partly in regular lines, with the interstices transversely rugose; a large bright red spot extends across the base and shoulder to nearly the middle of the elytra and to the lateral margin, its inner margin being very concave, another small elongate spot is situated at the extreme apex; underside and legs black; anterior tibiæ armed at their extreme apex with a short acute tooth.

Hab. MEXICO, Oaxaca (*Sallé*).

2. Agbalus mexicanus.

Oblong, greenish black; head and thorax metallic green, finely pubescent; elytra fulvous, semi-punctate-striate, and transversely rugose; legs fulvous, tarsi black.

Length $2\frac{1}{2}$ lines.

Hab. MEXICO, Oaxaca (*Sallé*).

The present species so much resembles the preceding one in every respect, except in its colour and size, that a detailed description of it is unnecessary. Whether it is but a variety of *A. quadriplagiatus* I am not able to say, as of each I have unfortunately but a single specimen for comparison.

EUPHRYTUS.

Elongate, convex, parallel; eyes sinuate, large; last joint of palpi ovate, its apex subtruncate; antennæ robust, the basal joints short, the terminal ones thickened; thorax transversely convex, its sides rounded and entire; elytra irregularly punctured; legs slender, the posterior femora incrassate and sometimes toothed; first tarsal joint as long as the two following united; claws appendiculate; prosternum greatly narrowed between the thighs, its base truncate; anterior thoracic episternum concave.

I propose this genus for the reception of a few Mexican species having the general appearance of certain members of the genera *Chalcophana* and *Coytiera*. From the last of these the thickened antennæ and dilated femora separate it, while it is

distinguished from the first by the truncate prosternum, as well as the other characters just named. It ought to be placed amongst Chapuis's first section, the Iphimeinæ.

1. **Euphrytus æneus.** (Tab. VII. fig. 25.)

Elongate, convex, greenish æneous; legs and base of the antennæ testaceous; thorax and elytra closely and finely punctured; posterior femora incrassate, subdentate.

Length 3 lines.

Head closely and distinctly punctured; clypeus triangular, limited anteriorly by two highly-raised smooth spaces; antennæ more than half the length of the body, robust, first joint swollen, pear-shaped, second very short, globose, third and fourth joints a little longer, of equal length, the rest more elongate, but thickened and slightly compressed, the four basal joints testaceous, the rest black; thorax transversely convex, its sides evenly rounded, the anterior margin not produced in the middle, the posterior one slightly rounded, surface everywhere and closely impressed with fine but distinct punctures; scutellum oblong, apex rounded; elytra very elongate, parallel and rather convex, the shoulders prominent and limited inwards by a shallow longitudinal depression, surface punctured like the thorax, but the punctures arranged in indistinct rows, with traces of longitudinal costæ near the apex; last abdominal segment thickened and produced; legs elongate, the posterior femora much widened and produced into a broad triangular tooth, its inner margin deeply concave and fringed with hairs, first tarsal joint as long as the two following united; claws appendiculate; prosternum greatly narrowed between the thighs, its base truncate.

Hab. Mexico, Puebla (*Sallé*).

The specimen which I believe to be the male shows rather less of the femoral dilatation, but the first tarsal joint of the anterior legs is more thickened (but not dilated) than in the female.

2. **Euphrytus simplex.**

Greenish æneous; base of the antennæ and the femora and tibiæ fulvous; antennæ filiform, gradually thickened; thorax and elytra finely punctured, the former transversely depressed at each side; posterior femora simple.

Length 3 lines.

Head strongly and rather closely punctured; clypeus limited in front by two smooth moderately-elevated spaces, its anterior margin straight; labrum broad, fulvous; antennæ nearly as long as the body, fourth joint longer than the third, the following ones elongate, terminal joints compressed and greatly dilated, black, the two basal joints and the apex of the following two fulvous; thorax transversely convex, its sides slightly sinuate near the base, surface very closely punctured; elytra closely geminate-punctate-striate, the interstices forming longitudinal smooth spaces; legs fulvous, tarsi piceous; the posterior femora moderately thickened, unarmed.

♀. Antennæ shorter; posterior femora wider, subangulate.

Hab. Mexico, Oaxaca (*Boucard, coll. Sallé*), Panistlahuca (*Sallé*).

As will be seen by the above description, this species deviates considerably from the type of the genus, on account of its more filiform antennæ and the unarmed and much less dilated posterior thighs. The general shape of the insect, however, and that of the palpi, and its other characters, seem to justify me in including it in this genus.

3. **Euphrytus opacicollis.** (Tab. VIII. fig. 18.)

Narrowly elongate, black below; antennæ and legs fulvous, above metallic green, subopaque; thorax impunctate; elytra finely punctate-striate; femora normal.

Length 2 lines.

Head extremely finely punctured; eyes very prominent; labrum fulvous; antennæ more than half the length of the body, the third and fourth joints of equal length and double as long as the second, the terminal joints gradually widened; thorax about twice as broad as long, slightly narrowed towards the apex, and anteriorly deflexed, the anterior angles slightly thickened, posterior margin very little widened at the middle, surface of a subopaque silky appearance, impunctate; elytra more shining, very finely and rather obsoletely punctured at the disk, more distinctly towards the sides, the puncturing arranged in indistinct striæ, extreme apex with a short costa; legs and tarsi fulvous; femora slightly widened, but not dilated; claws appendiculate.

Var. Above metallic blue.

Hab. Mexico, Yolos, Juquila (*Boucard, coll. Sallé*), Guanajuato (*Dugès, coll. Sallé*).

In this species the femora are not dilated; and this almost necessitated the erection of another genus; but as the thickened antennæ and narrow truncate prosternum agree with the other generic characters, I have, for the present, included this small species, which may be recognized by its opaque thorax, in the present genus.

4. **Euphrytus fulvicollis.** (Tab. VIII. fig. 19.)

Elongate, convex, fulvous; last four joints of the antennæ black; elytra greenish æneous, finely subpunctate-striate, the interstices extremely finely granulate.

Length $2\frac{1}{2}$ lines.

Head convex, extremely finely punctured, fulvous; clypeus triangular, its anterior margin slightly concave; antennæ two thirds the length of the body, filiform, the last joints widened, somewhat hatchet-shaped, fulvous, last four joints black; thorax very transverse, the sides widened towards the base, then subangulate to the latter, surface subopaque, fulvous, covered with minute punctures, which are only visible under a strong lens; scutellum fulvous; elytra not wider at the base than the thorax, rather convex, finely but much more distinctly punctured than the other parts, the punctuation arranged in subregular close lines, the minutely granulate interstices giving the whole a silky-like appearance; underside (with the exception of the middle of the abdomen, which is piceous) and the legs fulvous; posterior femora triangularly dilated; anterior tarsal joint in the male widened.

Hab. Mexico, Cuernavaca, Capulalpam, Puebla (*Sallé*), Juquila, Oaxaca (*Boucard, coll. Sallé*).

The fulvous head and thorax, together with the silky-like appearance of the elytra and its fine punctuation, distinguish this species at first sight; the terminal joint of the palpi is obliquely truncate, as in the other species.

COYTIERA.

Coytiera, Lefèvre, Rev. et Mag. de Zool. 1875, p. 116.

A single species served M. Lefèvre for the erection of this genus, which greatly resembles again *Chalcophana* and *Euphrytus*. With the latter genus it has the truncate base of the prosternum in common, but differs in the more rounded shape of the sides of the thorax, the simple femora, and the more slender antennæ.

The type is from Cayenne.

1. **Coytiera fulvipes.** (Tab. VIII. fig. 15.)

Oblong, greenish black below, æneous above; antennæ filiform, fulvous; thorax finely, elytra strongly punctate-striate; legs fulvous.

♀. Elytra subgeminately punctate-striate, the interstices longitudinally costate.
Var. *a*. Above metallic green.
Var. *b*. Antennæ and legs black.
Length 2 lines.
Head distinctly and rather closely punctured; anterior margin of the epistome straight; labrum fulvous; eyes very large, convex; antennæ two thirds the length of the body, fulvous, the two terminal joints piceous; thorax transversely convex, its sides much and regularly rounded and narrowly margined, surface very closely and rather finely punctured, a little more distinctly at the sides; scutellum oblong, impunctate; elytra closely and regularly punctate-striate, the punctures much more strongly impressed than those of the thorax; the suture accompanied at its last half by an impressed line; legs and tarsi entirely fulvous; anterior first tarsal joint moderately dilated in the male.
♀. The interstices between each two rows of punctures raised into very distinct longitudinal costæ; the anterior tarsal joint elongate.

Hab. MEXICO, Panistlahuca, Cuernavaca, Istapan (*Sallé*), Oaxaca, Juquila (*Boucard, coll. Sallé*).

Although in this species one of the characters peculiar to the genus in which I have included it, the curved anterior tibiæ, is absent, and the prosternum also of slightly different shape, I feel scarcely justified in erecting another genus for its reception. The differences do not seem of great importance; and in other respects the insect agrees with the type.

It seems to be a very variable species: in some specimens the thorax is copper-coloured, in others blue; the same may be said of the elytra; while the general shape seems equally variable, some specimens being more elongate than others: yet there do not seem to me to be sufficiently important characters to separate them.

2. **Coytiera rugipennis.** (Tab. VIII. fig. 16.)

Narrowly oblong, greenish black below; antennæ and legs fulvous; above bright metallic green or blue; thorax finely punctured; elytra geminately punctate-striate, the interstices rugose and longitudinally costate at the sides.
Length $1\frac{3}{4}$ line.
Head rugose punctate; epistome limited in front by two smooth elevated spaces; labrum fulvous, its anterior margin deeply concave; antennæ half the length of the body, filiform, fulvous, the four apical joints piceous; thorax transversely convex, sides rounded and entire, finely marginate, surface very closely and finely punctured, a little more strongly at the sides; elytra strongly geminate-punctate-striate, the interstices everywhere transversely rugose, with about four longitudinal costæ near the sides; prosternum broad, widened greatly at the base, the latter truncate; legs fulvous.

Hab. MEXICO, Tepanistlahuca (*Sallé*), Jalapa (*Höge*).

This small and very distinct species ought perhaps to be placed in a genus of its own; but I find most of the characters peculiar to *Coytiera* present, the only difference being the almost simple and straight tibiæ and its small size. The rugosities of the elytra can be noticed with the naked eye. All the specimens from Jalapa, of which one is figured here, are metallic blue; and a single female has the elytra much more rugose and longitudinally costate than the male.

BELTIA.

Oblong, convex; head perpendicular; eyes oblong, sinuate at their inner margin; palpi filiform, apical joint ovate, apex pointed; antennæ subfiliform, second joint short, third of twice the length, the five terminal joints slightly thickened; thorax very convex, the anterior margin sinuate behind the eyes and produced in the middle, the sides simple, rounded towards the base, anteriorly greatly deflexed; scutellum broad, its apex rounded; elytra very convex, rounded and slightly narrowed towards the apex, surface irregularly punctured, interstices at the sides rugose; legs robust, anterior femora with a strong tooth directed forward; tibiæ channelled at their apex only; claws appendiculate; prosternum subquadrate, very broad, its base truncate; anterior thoracic episternum concave.

A number of characters unite in the present insect to prevent its being confounded with any genus belonging to the Iphimeinæ, amongst which it must find its place. The general aspect is that of the genus *Endocephalus* or *Corynodes*,—the nearest allied genus being apparently *Sterneurus*, Lefèvr., which differs, however, in the subdentate, not strongly toothed, anterior femora, and the elytra, which are much wider at the base than the thorax, as well as other characters obvious on comparison. M. Lefèvre compares his genus with *Chalcophana*, with which the present one has nothing in common. Only a single specimen was obtained, by the late Mr. Belt, in Nicaragua.

1. **Beltia nicaraguensis.** (Tab. VIII. fig. 25.)

Below metallic greenish, finely pubescent; labrum, antennæ, and legs fulvous; above greenish æneous; head rugose punctate; thorax and elytra closely punctured, interstices of latter near the sides transversely wrinkled.

Length $3\frac{3}{4}$ lines.

Head very broad, slightly depressed between the eyes, covered entirely with longitudinal and transverse strigæ; epistome not separated from the face, its anterior margin sinuate; labrum transverse, fulvous; antennæ of half the length of the body, fulvous, the two terminal joints black; thorax very convex, subcylindrical, the anterior angles acute, entire surface evenly and finely but very distinctly punctured; scutellum impunctate; elytra slightly transversely depressed below the base, the humeral callus rounded, but prominent, surface much more strongly punctured than the thorax, the punctures arranged somewhat regularly in close lines, those near the sides much stronger, and the interstices transversely rugose; underside obscure fulvous, with a metallic green gloss, and covered with very short silvery pubescence; legs not very robust, the anterior femora near their apex (which is much hollowed out) armed with a rather long and acute tooth, which is directed forward and forms the limit anteriorly of the broadly dilated thigh; prosternum nearly square-shaped, the sides concave.

Hab. NICARAGUA, Chontales (*Belt*).

METAXYONYCHA.

Metazyonycha, Chevrolat, in d'Orb. Dict. d'Hist. Nat. viii. p. 172 (1847); *Metaxyonycha*, Marshall, Ann. & Mag. Nat. Hist. ser. 3, xiii. p. 382 (1864).

This genus is one which, with about a dozen others, forms a group of elongate species, generally of metallic or light brown colour, of which the principal character is found in the dentate lateral margin of the thorax. Besides that, it is distinguished by the emarginate apex of the middle tibiæ. Several species have been described from Central America, the others (to the number of about a dozen) having been found in different parts of South America.

1. **Metaxyonycha tridentata.** (Tab. VI. fig. 12.)

Metaxyonycha tridentata, Jacoby, P. Z. S. 1877, p. 512.

Hab. MEXICO, San Andres, Santecomapan (*Sallé*); NICARAGUA, Chontales (*Janson, Belt*); PANAMA.

The antennæ of this species have joints five to seven, as well as the apical one, black; the head and thorax are very deeply punctured, the latter having three more or less distinct teeth at the middle of the lateral margin; and the elytra are ornamented with two metallic green spots, one at the shoulder, the other of a narrow transverse shape below the middle. The specimen figured is from Nicaragua.

2. **Metaxyonycha chlorospilota.**

Metaxyonycha chlorospilota, Marsh. Monogr. Ann. & Mag. Nat. Hist. ser. 3, xiii. p. 385[1].

Hab. MEXICO[1], Cordova, Santecomapan, Playa Vicente (*Sallé, Höge*).

A great number of specimens were obtained by Herr Höge, which I refer, as well as those contained in M. Sallé's collection, to the above species, but not without some doubt, although they agree perfectly with the specimens so named in the collection of Mr. Baly. Marshall, who gives a good description of the species, says the punctuation is more faintly impressed (after comparing it with *M. crucifera*), and that the general appearance is less glossy, due to a fine aciculation between the punctures, of which, however, I am quite unable to detect any sign; the author further makes no mention of the coarse transverse rugosities which are so plainly visible between the elytral costæ near the base and the apex. I may further add that the female has a much more transverse thorax than the male, the sides of which are scarcely dentate, but rather more sinuate, the male being, besides that, distinguished by a distinct inward curve and dilatation of the middle tibiæ; the emargination of the latter is but very slight in the present species.

3. **Metaxyonycha crucifera.**

Metaxyonycha crucifera, Marsh. Ann. & Mag. Nat. Hist. ser. 3, xiii. p. 385[1].
Metaxyonycha chevrolati, Dej. Cat. 3rd ed. p. 430[2].

Hab. MEXICO[1 2]; BRAZIL.

The absence of the elytral costæ and the different shape of their metallic spots, which leave the ground-colour between them in the shape of a cross, divides this species from its allies. In the collection of Mr. Baly all the specimens are marked with the locality "Brazil;" and as neither M. Sallé's nor Höge's collection contains a single specimen, I am almost inclined to believe that Marshall may have been mistaken as to the locality of the species in question.

4. **Metaxyonycha godmani.** (Tab. VI. fig. 13.)

Elongate, parallel, testaceous; antennæ with joints five, six, seven, and the two terminal ones black; thorax three-dentate; elytra deeply semipunctate-striate, the interstices rugose, a humeral and a subapical large spot metallic green.

Length 4½ lines.

Head with a rather deep depression between the eyes, distinctly but not very closely punctured at the vertex; antennæ more than two thirds the length of the body, shorter in the female; thorax nearly square-shaped, the anterior and posterior angles produced into an acute tooth, the lateral margin three-dentate, the posterior tooth, however, obsolete, surface very closely and rather evenly punctured, the punctures not stronger than those of the head; elytra with two or three regular rows of deep punctures near the suture, rest of the surface irregularly punctate, the interstices everywhere transversely wrinkled and distinctly costate near the extreme apex, a large metallic-green spot, obliquely cut at its posterior margin, is placed at the base, another of the same colour below the middle, neither of these spots touches the lateral and sutural margins; legs testaceous, the femora in the male extending to nearly the apex of the abdomen, those of the female shorter.

Hab. GUATEMALA, Zapote (*Champion*).

At first sight this species resembles *M. chlorospilota*; but an examination of the antennæ and the shape of the thorax will at once show its specific distinction. Five specimens, which show no variation, were obtained by Mr. Champion. Besides the colour of the antennæ, the totally different sculpture of the elytra will separate the present species.

PRIONODERA.

Prionodera, Chap. Gen. Col. x. 1874, p. 248.

The few species constituting this genus seem to form a connecting link between the genera *Metaxyonycha* and *Colaspis*, approaching the first by their general shape and that of their thorax, and the latter genus by their simple, not emarginate tibiæ, but differing from it, according to Chapuis, by the thickened middle joints of the antennæ. This latter character, however, I have searched for in vain, and find that the joints very gradually and slightly thicken towards the end, and are by no means thicker in the middle than at the base or apex. Two South- and two Central-American species are known.

1. **Prionodera amasia.** (*Metaxyonycha amasia*, Tab. VI. fig. 14.)

Metaxyonycha amasia, Marshall, Ann. & Mag. Nat. Hist. ser. 3, xiii. p. 388[1].

Prionodera wagneri, Harold, Col. Hefte xii. 1874, p. 66[2].

Hab. MEXICO, Teapa (*Sallé*); GUATEMALA, San Juan, Sinanja, Panzos (*Champion*); NICARAGUA, Chontales (*Belt*); COSTA RICA[1,2] (*Sallé*), Volcan de Irazu (*Rogers*).

There seems to be no doubt, according to the descriptions, that Marshall's and v. Harold's species are identical. The former included it in the genus *Metaxyonycha*, from which it differs, however, in the simple intermediate tibiæ. The species is easily recognized by the metallic green elytra and their irregular punctuation, besides the inter-

mediate piceous joints of the antennæ, a constant character in all the specimens I have examined; but in the Guatemalan specimens the apical joints are also piceous, and the elytral sculpture is rather finer; but I scarcely think this sufficient to consider them to belong to another species. The figure is from a specimen from Costa Rica.

2. **Prionodera salvini.** (Tab. VIII. fig. 20.)

Elongate, slightly widened behind, fulvous; last six joints of the antennæ obscure piceous; thorax bifoveolate, strongly punctured, three-dentate; elytra metallic green, geminate- punctate-striate, interstices longitudinally costate.

Length 4 lines.

Head with large and smaller punctures at the vertex, and a cruciform depression at the middle; antennæ half the length of the body, fulvous, the last six joints obscure piceous; thorax with a deep transverse depression at each side, lateral margins distinctly three-dentate, surface strongly and irregularly punctured throughout; scutellum fulvous; elytra slightly transversely depressed below the base and widened posteriorly, of a bright metallic green, surface very strongly impressed with double rows of punctures, the interstices from base to apex strongly longitudinally costate; underside and legs entirely fulvous.

Hab. Costa Rica (*coll. Sallé*); Guatemala (*coll. Baly*).

From *P. amasia* the present species is easily distinguished by the highly raised longitudinal costæ of the elytra and the colour of the antennæ.

3. **Prionodera hirtipennis.** (Tab. VIII. fig. 21.)

Elongate, parallel, fulvous; antennæ black, the three basal joints testaceous; thorax obscure, sinuate at side s elytra metallic green, the lateral margin and the apex fulvous; surface irregularly punctured and transversely rugose, with rows of yellowish hairs.

Length $2\frac{1}{2}$–3 lines.

Head closely and rather deeply punctured; clypeus concave at its anterior margin, impunctate; antennæ nearly as long as the body in the male, shorter in the female, black, four basal joints testaceous; thorax closely and distinctly punctured, with a very shallow depression at each side, the lateral margins obsoletely bisinuate; elytra elongate and parallel, of a very bright metallic green, the lateral margin and the apex narrowly testaceous or fulvous, disk closely rugose punctate, the interstices with some fine fulvous pubescence, set in rows at regular intervals; underside and legs light fulvous, the latter also covered with hairs; anterior tarsal joint in the male slightly thickened.

Hab. Guatemala, Capetillo (*Champion*).

About twenty specimens of this very distinct and pretty little species were obtained in the above locality only. The female is generally larger than the male, the punctuation of the thorax coarser and more irregular, the antennæ shorter, and the anterior tarsal joint elongate and slender. The pubescence on the elytra is a peculiar feature of this species.

PROMECOSOMA.

Promecosoma, Lefèvre, Ann. Soc. Ent. France, 1877, p. 126.
Metaxyonycha, Chapuis, Gen. des Coléopt. x. p. 246.

The present genus bears a great resemblance to the preceding one, and has in consequence been united with it by Chapuis; M. Lefèvre, however, has divided the two genera again, on account of the different antennæ and general appearance of the insects,

which are less parallel, more widened at the middle, the antennæ being at the same time thickened and less elongate (although not in every case); the elytra are nearly all of a dark metallic-green colour. The species are exclusively Mexican.

1. **Promecosoma abdominale.** (Tab. VIII. figg. 1, 2.)

Promecosoma abdominale, Lefèvre, Ann. Soc. Ent. France, 1877, p. 127[1].

Hab. Mexico [1], Oaxaca (*Höge, Boucard, coll. Sallé*), Peras, Durasnal (*Boucard, coll. Sallè*), Guanajuato (*Dugès, coll. Sallé*).

This is a common species in collections, and may be known by the greenish-black thorax in connexion with the narrow elongate shape and fulvous colour of the underside; the colour of the elytra varies from green to purplish. The figures represent specimens from Oaxaca (fig. 1) and Jalapa (fig. 2).

2. **Promecosoma dispar.** (Tab. VIII. fig. 3.)

Promecosoma dispar, Lefèvre, Ann. Soc. Ent. France, 1877, p. 127.

Hab. Mexico, Yolos (*Boucard, coll. Sallé*), Guanajuato (*Dugès, coll. Sallé*).

I strongly believe that this species is but a variety of the preceding one, the whole difference between the two being the fulvous head and thorax, the latter having, however, the sides narrowly dark green; the apex of the elytra is also in one specimen (the type) fulvous, while in another this colour is absent, the insect showing therefore its tendency to vary as regards colour; but, in the absence of intermediate forms, it may be as well to keep the two species separate.

3. **Promecosoma scutellare.** (Tab. VIII. fig. 4.)

Promecosoma scutellare, Lefèvre, Ann. Soc. Ent. France, 1877, p. 128.

Hab. Mexico, Playa Vicente (*Sallé*).

This is a large species, of a purplish colour above, which in general appearance approaches much nearer the genus *Metaxyonycha* than most of the other species; the thorax is broadly transverse; and the antennæ are more elongate and filiform than is usual in this genus. The specimen figured is from Playa Vicente.

4. **Promecosoma nobilitatum.** (Tab. VIII. fig. 5.)

Promecosoma nobilitatum, Lefèvre, Ann. Soc. Ent. France, 1877, p. 128[1].

Hab. Mexico [1], Playa Vicente (*Sallé*); Guatemala [1] (*Sallé*).

The largest species of the genus, and, besides this, distinguished from its allies by the red elytral apex, the robust legs, and black tarsi; in other respects it resembles the preceding species.

5. **Promecosoma cinctipenne.** (Tab. VIII. fig. 6.)

Promecosoma cinctipenne, Lefèvre, Ann. Soc. Ent. France, 1877, p. 129[1].

Hab. Mexico[1] (*Sallé*).

M. Lefèvre's single type specimen is contained in M. Sallé's collection, as well as representatives of all the species of this genus. The present insect is distinguished by the rufous margin and apex of the elytra, as well as by the deep punctuation and coarse transverse rugosities of the latter.

6. **Promecosoma elegantulum.**

Promecosoma elegantulum, Lefèvre, Ann. Soc. Ent. France, 1877, p. 130.

Hab. Mexico, Guanajuato (*Dugés, coll. Sallé*).

Except in the colour of the underside, which is piceous, and the smaller size of the present species, the latter does not differ, in my opinion, sufficiently from *P. cinctipenne* to justify its separation; but more specimens are necessary to form a decisive opinion.

7. **Promecosoma sallæi.** (Tab. VIII. fig. 7.)

Promecosoma sallei, Lefèvre, Ann. Soc. Ent. France, 1877, p. 130.

Hab. Mexico, Michoacan (*Dugès, coll. Sallé*).

The metallic-green upperside, interrupted by a sutural and marginal band of fulvous, distinguishes well the present species from all others.

8. **Promecosoma sanguinolentum.**

Promecosoma sanguinolentum, Lefèvre, Ann. Soc. Ent. France, 1877, p. 131[1].
Cacoscelis sanguinolenta, Sturm, Catal. MS.

Hab. Mexico[1] (*Sallé*).

Again closely allied to *P. sallæi*, but differing in the rufous thorax and coarser punctuation of the latter, as well as the stronger rugosities of the elytra. The typical specimen from M. Sallé's collection was formerly in Sturm's possession under the above manuscript name.

9. **Promecosoma dugesi.** (Tab. VIII. fig. 8.)

Promecosoma dugesi, Lefèvre, Ann. Soc. Ent. France, 1877, p. 131.

Hab. Mexico, Guanajuato (*Dugés, coll. Sallé*).

Of this species three specimens are contained in M. Sallé's collection. The colour of the upperside is dark metallic green or blue; the head and thorax are very rugose; and the elytra have the apex of a rufous colour. From *P. abdominale* the species may be distinguished by the shorter shape and much broader thorax.

10. **Promecosoma jucundum.**

Promecosoma jucundum, Lefèvre, Ann. Soc. Ent. France, 1877, p. 131[1].

Hab. Mexico [1].

11. **Promecosoma inflatum.** (Tab. VIII. fig. 9.)

Promecosoma inflatum, Lefèvre, Ann. Soc. Ent. France, 1877, p. 132.

Hab. Mexico, Cuernavaca (*Sallé*).

The red thorax and the peculiar shape of the insect before us, which is greatly widened towards the middle of the elytra, will help to distinguish it; this latter character, however, is scarcely recognizable in a smaller specimen before me, which is much more parallel than the others.

12. **Promecosoma dilatatum.** (Tab. VIII. fig. 10.)

Promecosoma dilatatum, Lefèvre, Ann. Soc. Ent. France, 1877, p. 133.

Hab. Mexico, Guanajuato (*Dugès, coll. Sallé*).

A great many specimens of this species are contained in M. Sallé's collection, having been all obtained in the above locality. The species is a very distinct one, on account of its short posteriorly widened shape and the uniform metallic-green colour of its upperside.

13. **Promecosoma chrysis.**

Promecosoma chrysis, Lefèvre, Ann. Soc. Ent. France, 1877, p. 133[1].

Hab. Mexico [1], Guanajuato (*Dugès, coll. Sallé*).

In shape this species resembles exactly *P. inflatum* and *P. dilatatum*, from both of which but slight differences separate it; and, in my opinion, the species in question are identical. Neither size nor colour seem to be constant in these insects; and the same applies to the sculpturing of the elytra and thorax.

14. **Promecosoma fervidum.** (Tab. VIII. fig. 11.)

Promecosoma fervidum, Lefèvre, Ann. Soc. Ent. France, 1877, p. 134[1].

Hab. Mexico, Guanajuato [1] (*Dugès, coll. Sallé*).

The only species with which the present one might be confounded is *P. dispar*, from which, however, it is separated by the much more transverse thorax and the semipunctate-striate elytra; the latter, besides these differences, end also in an acute point or tooth.

15. **Promecosoma lepidum.** (Tab. VIII. fig. 13.)

Promecosoma lepidum, Lefèvre, Ann. Soc. Ent. France, 1877, p. 134[1].

Hab. Mexico, Panistlahuca [1] (*Sallé*).

The underside, head, and thorax, as well as the extreme lateral margin and apex of the elytra, in this species are fulvous; in other respects it does not seem to differ to any extent from *P. fervidum* and *P. cinctipenne*.

16. **Promecosoma lugens.** (Tab. VIII. fig. 12.)

Promecosoma lugens, Lefèvre, Ann. Soc. Ent. France, 1877, p. 135.

Hab. Mexico, Oaxaca (*Boucard, coll. Sallé*).

Distinguished by the comparatively long antennæ, the black underside, legs, head, and thorax. Only a single specimen is before me.

17. **Promecosoma viride.** (Tab. VIII. fig. 14.)

Elongate, convex, metallic green; antennæ and legs fulvous, last three joints of the former piceous; thorax closely punctured; elytra punctate-rugose, the interstices at the apex costate.

♀. Elytra with a strongly raised longitudinal costa from the shoulder to the apex.

Length 2 lines.

Head closely punctured, with a more or less distinct longitudinal groove; the spaces above the insertion of the antennæ smooth and shining; thorax transverse, strongly and closely punctured, the sides rounded and entire; elytra punctured like the thorax, the interspaces transversely rugose, and raised near the extreme apex into two or three short costæ; legs fulvous, the intermediate tibiæ entire.

Hab. Mexico, Cuernavaca, Oaxaca (*Boucard, coll. Sallé*), Guanajuato (*Dugès, coll. Sallé*), Oaxaca (*Höge*).

I find the name given to this species by M. Lefèvre under half a dozen specimens in M. Sallé's collection; but I am not able to find any description or note referring to it, and conclude that it is a MS. name, which I have retained; I am also inclined to believe that the present species is out of place here, as the principal characters, the emarginate middle tibiæ and sinuate lateral margin of the thorax, are absent. The general appearance and sculpture of the species, however, are so much like those of the others belonging to the genus that I thought it best to leave it amongst the latter. The insect before us is the smallest of the genus, and was obtained in great numbers by Herr Höge.

COLASPIS.

Colaspis, Fabr. Syst. El. i. 1801, p. 411; Chapuis, Gen. des Coléopt. 1874, x. p. 248.

With more than sixty described and a great many undescribed species, this genus may be considered the type of the group (the Colaspinæ of Chapuis). Although no doubt closely allied to *Metaxyonycha*, *Prionodera*, and several other genera, the present one has a certain facies in most cases to distinguish it; numerous exceptions are, however, to be found, and it is scarcely possible to point out the characters peculiar to *Colaspis* only. From *Prionodera*, for example, I know of no definite structural character to divide the present genus, unless the convex upper surface and anteriorly narrower thorax are taken as a guide: these two characters hold good generally; and

I know of no species which might not be separated from *Prionodera* by its general convex appearance. Species of *Colaspis* have been described from nearly all parts of the globe, although the authors have themselves not at all times been without doubt as to the right position of their types. It is very curious that, amongst the sixty-two species enumerated in Gemminger's catalogue, not a single species (except an undescribed one) is mentioned as found in Central America. Great numbers of specimens were collected by Champion and Höge; but most of them belong to a few species only.

1. **Colaspis splendida.** (Tab. VI. fig. 17.)

Elongate, narrowed behind, metallic green; antennæ black, the six basal joints violaceous; thorax bidentate at the sides, purplish, the margins metallic green; elytra foveolate punctate, interstices longitudinally and transversely tuberculate, each elytron with a broad longitudinal purplish band.

Var. brilliant cupreous above; thorax more closely punctured.

Length 6 lines.

Head rugose punctate, with a central longitudinal groove, the anterior part cupreous; epistome and lower part of face metallic green; antennæ half the length of the body, the first joint metallic green, the next five joints fulvous, with a purplish tint, the rest black, opaque, all the joints, with the exception of the first two, of nearly equal length; thorax transverse, its angles acute, the sides distinctly bidentate, surface deeply foveolate punctate, the interstices irregularly raised and rugose, cupreous, the extreme lateral margins and a short space near the middle of the base metallic green; scutellum small, semicircular, metallic green; elytra of the same colour, with a broad band of cupreous of equal width extending from the shoulder to the apex, without, however, touching either the latter nor the lateral margin; surface longitudinally and transversely costate and tuberculate, the tubercles arranged partly in rows near the sides, rest of the surface deeply foveolate punctate; underside and legs metallic green; tibiæ and tarsi purplish.

Hab. Costa Rica (var.); Panama (*Boucard*).

This most beautiful species is one of the largest of the present genus, and almost identical in size and colour with *Adorea speciosa*, Lefèv., with which I would have associated it; but the different shape of the antennæ, sides of the thorax, and the very broad prosternum of M. Lefèvre's insect do not permit the belief that the two species are identical, although evidently they are closely allied. A specimen in my collection (the variety from Costa Rica) varies principally in the closer punctuation of the sides of the thorax and the three basal joints of the antennæ, which are fulvous (the rest being wanting). I scarcely think these differences sufficient to justify the separation of another species. The type from Panama is figured here.

2. **Colaspis chontalensis.**

Elongate, semiconvex, copper-coloured; head sparingly, thorax closely rugose punctate, with two obscure dark lateral bands; elytra tuberculate and wrinkled, strongly punctured, each elytron with a longitudinal dark broad band from the base to the apex.

Length 4½ lines.

Head very dark purplish, sparingly punctured at the vertex, but intermixed with numerous minute punctures, and with a distinct longitudinal groove in the centre; clypeus triangular, reticulate punctate, with a short raised middle line at the apex; antennæ wanting; thorax transverse, of the same shape as *C. splendida*, but the surface much more closely punctured, especially near the sides, which are obsoletely three-sinuate, the punctures on the disk interrupted by moderately raised smooth spaces, an obscure

(nearly black) band occupies the sides from the base to the apex, interrupting the more metallic coppery colour at the disk; scutellum small, impunctate; elytra slightly widened towards the middle, acutely pointed at the apex, surface somewhat depressed at the middle, strongly tuberculate, and transversely rugose as in the preceding species, the intervals subfoveolate-punctate, of the same colour as the thorax, the dark band of the latter continuing at the sides of the elytra from base to apex; underside and legs more shining, finely pubescent.

Hab. NICARAGUA, Chontales (*Belt*).

The only specimen obtained by Belt is a male; and I should consider it a variety of *C. splendida* had the punctuation of the thorax been the same; this, however, is much closer, and extends quite to the lateral margin, in the present species. In *C. splendida* this part is sparingly foveolate, and the interspaces are raised in smooth transverse wrinkles; the elytra show the same closer sculpture in the species before us on comparing it with the other.

3. **Colaspis gemmingeri.** (Tab. VI. fig. 15.)

Chalcophana gemmingeri, Harold, Coleopt. Hefte, xii. 1874, p. 81[1].

Hab. MEXICO, Toxpam (*Sallé*); BRITISH HONDURAS, river Hondo (*Blancaneaux*).—BRAZIL[1].

This species was described by v. Harold under the genus *Chalcophana*; and although no doubt a true *Colaspis*, it seems to be almost intermediate between the two genera in question. The thorax, instead of being laterally dentate, is only angulate at the middle, sometimes even rounded; and the prosternum differs in the specimens before me in having its base perfectly truncate or emarginate, but certainly not bilobed, which would justify its being included in the genus *Chalcophana*. It is one of the most easily recognized species of the present genus, on account of the longitudinal smooth fulvous costæ of the elytra and the metallic-green punctures of their interstices, which are arranged in double rows. The Brazilian specimen in my collection is larger and more narrowed behind than the northern forms, but does not show any other important difference. The figure represents a specimen from British Honduras.

4. **Colaspis championi.**

Oblong ovate, convex, light fulvous; the seventh and two terminal joints of the antennæ piceous; thorax closely punctured, sides angulate or obscure sinuate; elytra geminate- punctate-striate and longitudinally costate.

Length $3\frac{1}{2}$ lines.

Head very closely punctured throughout; anterior margin of the clypeus straight; thorax very closely punctured, the margin more or less metallic green, obsoletely angulate at the middle; elytra closely geminate-punctate-striate, each elytron with about seven longitudinal costæ, the interior of the punctures more or less distinctly metallic green; underside and legs light fulvous, with an obscure metallic green tint.

Hab. MEXICO, Jalapa (*Höge*); GUATEMALA, San Gerónimo, Cubulco (*Champion*).

At first sight this species seems to be identical with *C. gemmingeri*; but a number of differences show it to be distinct: it is separated by the antennæ having piceous joints,

by the close punctuation of the head and thorax, the latter having no smooth spaces like *C. gemmingeri*; the elytra in the present species are less acute and narrowed posteriorly, the longitudinal costæ are less prominent; and the entire colour of the insect is much lighter; I may further add that the thorax of *C. championi* is distinctly narrower than in the other species. All these differences are constant in the ten specimens before me.

5. **Colaspis hypochlora.** (Tab. VI. fig. 18.)

Colaspis hypochlora, Lefèv. Mittheil. Münch. ent. Verein. 1878, p. 123[1].

Hab. MEXICO, Jalapa (*Höge*), Cordova, Yolos, Tuxtla, Juquila, Teapa, Playa Vicente, Puebla, Cuernavaca, Guanajuato (*Sallé, Boucard, Dugès*); BRITISH HONDURAS, river Hondo, river Sarstoon (*Blancaneaux*); GUATEMALA, Zapote, Dueñas, Panzos, San Gerónimo (*Champion, Salvin, Sallé*); NICARAGUA, Chontales (*Janson*); COSTA RICA, Volcan de Irazu, Cache (*Rogers*); PANAMA, Volcan de Chiriqui, 2000 to 3000 feet (*Champion*).—COLOMBIA[1].

This seems to be an abundant and widely distributed species, as will be seen by the numerous localities quoted. It represents *C. gemmingeri* and *C. championi* on a small scale, being identical in sculpture and colour; but besides being much smaller, the underside is metallic dark green, and the thorax is coarser and more sparingly punctate. The figure represents a specimen from Teapa.

6. **Colaspis prasina.** (Tab. VI. figg. 16, 20.)

Colaspis prasina, Lefèv. Mitth. Münch. ent. Verein. 1878, p. 120[1].

Hab. MEXICO, Orizaba, Juquila, Cordova, Capulalpam, San Andres, Santecomapan, Jalapa (*Sallé, Boucard, Höge*); BRITISH HONDURAS, Belize, river Hondo, river Sarstoon (*Blancaneaux*); GUATEMALA, Capetillo, Dueñas, Cerro Zunil, Chiacam, Teleman, Panima, San Gerónimo, Sabo, Purula, La Tinta (*Champion, Salvin, Sallé*); NICARAGUA, Chontales (*Janson*); COSTA RICA (*Van Patten*), Volcan de Irazu, Cache, Rio Sucio (*Rogers*); PANAMA, Volcan de Chiriqui (*Champion*).—COLOMBIA, Fusagasugá, Guayabal, Muzo, Copér[1].

I am not certain whether I have referred rightly the numerous specimens from the above localities to M. Lefèvre's species. There are, in fact, so many very closely allied species which all resemble to a greater or lesser extent *C. æruginosa*, Germ., that it is necessary to compare long series of specimens before deciding upon their specific value. The present species is of metallic green or bluish-purplish colour (fig. 20). The thorax and elytra are deeply punctured, the latter having the interstices costate in some instances, while in others they are wanting; but no other difference seems to be noticeable. *C. æruginosa* has part of the antennæ piceous, while here they are entirely fulvous. The other figure is taken from a Guatemalan specimen.

7. Colaspis callichloris.

Colaspis callichloris, Lefèv. Mitth. Münch. ent. Verein. 1878, p. 121[1].

Hab. MEXICO[1].—COLOMBIA, Canoas, Ocaña[1].

M. Lefèvre compares this species to *C. æruginosa*, Germ., but says that its general colour is more brilliant, and that the punctuation is deeper; the elytra are described as geminate-punctate-striate, and the interstices costate, which would apply equally to the preceding species.

8. Colaspis bifasciata.

Elongate, convex, metallic green; head cupreous; thorax deeply punctured, cupreous, the lateral margins and a triangular basal spot metallic green, sides bidentate; elytra foveolate-punctate and transversely rugose, metallic green, each elytron with a broad lateral cupreous band from base to apex.

Length 4 lines.

Head with a deep central longitudinal groove, closely covered with larger and smaller punctures; space above the insertions of the antennæ raised into two highly elevated, smooth, metallic green spaces; eyes very large and prominent; clypeus finely punctured, metallic green; labrum obscure fulvous; antennæ nearly as long as the body, the first joint metallic green, the following two fulvous, the rest purplish; thorax transversely subquadrate, its sides bidentate, disk deeply but not very closely punctured, the interstices raised into smooth elevated spaces, dark cupreous, the lateral margins (narrowly) and a central triangular basal spot metallic green; elytra distinctly narrowed posteriorly, convex, with two or three irregular rows of distant punctures near the suture, rest of the surface deeply foveolate, and traversed near the sides by highly raised transverse rugosities, surface metallic green, the sides occupied by a broad dark cupreous band from the base to the apex; underside and legs metallic green, the latter very slender and elongate, intermediate tibiæ slightly curved near the apex.

Hab. PANAMA, Volcan de Chiriqui, 2000 to 3000 feet (*Champion*).

This handsome insect bears the greatest resemblance to *C. splendida*, Jac., in regard to colour, but is totally different as to the sculpturing of its upper parts, which in the present species are devoid of the rugosities which cover the entire surface of the elytra in *C. splendida*, being confined here to the sides only; the thorax, instead of being transverse as in the latter species, is in *C. bifasciata* nearly square; and the antennæ are nearly as long as the body. A single male specimen is at present before me, which may possibly be that of *C. splendida.*

9. Colaspis lebasi.

Colaspis lebasi, Lefèv. Mitth. Münch. ent. Verein. 1878, p. 121[1].

Hab. MEXICO, Cordova, Tuxtla, Toxpam, Playa Vicente (*Sallé, Boucard, Höge*); BRITISH HONDURAS, river Hondo (*Blancaneaux*); GUATEMALA, Capetillo, San Gerónimo, Tamahu, Coatepec (*Champion*); NICARAGUA, Chontales (*Janson*); COSTA RICA; PANAMA, Volcan de Chiriqui, 2000 to 3000 feet (*Champion*).—COLOMBIA[1].

I refer the numerous specimens received from the above localities to M. Lefèvre's species, although some slight differences, which I attribute to local influences, are present. These consist in a rather more regular arrangement of the elytral punctures, the latter being at the same time less deeply impressed, in the presence of another

minute tooth preceding the more distinct one at the thoracic lateral margin, and in the colour of the antennæ, which have the seventh and last three joints usually (but not always) piceous. The species is smaller than *C. prasina*, and may be distinguished from the latter by the transversely wrinkled interstices, which are especially plainly visible near the lateral margins, and by the want of the longitudinal costæ; the elytra in most specimens have a cupreous tint; and the suture is generally entirely of that colour. The thorax is more closely and finely punctured than in *C. prasina*; and the interstices are scarcely raised. The male insect is of a more parallel and narrower shape than the female. The colour of the antennæ is variable; they are either entirely flavous, or have the apical joints more or less of a piceous tint, while in many specimens the seventh and last three joints only are of that colour.

10. **Colaspis mexicana.**

Oblong, convex, narrowed behind, metallic green; antennæ and legs flavous; thorax obsoletely angulate, closely punctured; elytra very closely and strongly punctured, the interstices subreticulate.

Length 3 lines.

Head rather finely and very closely punctate, the punctures of a rather elongate shape; middle of the head impressed with a narrow longitudinal groove; clypeus closely punctured, limited in front of the eyes by two highly raised, smooth, metallic green spaces; labrum fulvous; antennæ half the length of the body, entirely flavous; thorax not more than twice as broad as long, its sides very obsoletely angulate behind the middle, the anterior angles slightly thickened but scarcely produced, surface very closely punctured, the punctures deeper than those of the head, the interstices here and there raised into small smooth spaces; scutellum small, impunctate; elytra convex, distinctly narrowed behind, the apex rather pointed, surface closely covered with punctures of a larger size than those of the thorax and arranged near the sutural margin into rather regular lines, the interstices reticulate, more especially near the sides; two narrow but distinct costæ run parallel and close with the lateral margin, from below the shoulder to the apex; underside metallic green, finely punctured.

Hab. Mexico, Cordova (*Höge*).

The general shape of the present species is narrow and elongate, its colour scarcely shining, but subopake dull green. The very close sculpturing of its elytra, which is not interrupted by costæ except near the extreme lateral margin, in connexion with the metallic green underside will distinguish it from its allies, of which *C. viridissima*, Lefèv., seems to be the nearest form. That species, however, is much larger; and its thorax much more deeply punctured, and strongly dentate at its sides.

11. **Colaspis submetallica.** (Tab. VII. fig. 7.)

Oblong, moderately convex, fulvous, above with a metallic green tint, seventh joint of the antennæ piceous; thorax long, sides bidentate; elytra moderately strongly geminate-punctate-striate.

Length 3 lines.

Head swollen at the vertex and finely punctured; clypeus more strongly punctured; labrum fulvous; jaws black; antennæ light fulvous, the seventh joint piceous; thorax scarcely twice as broad as long, much widened at the middle, sides behind the latter with two teeth, surface very closely but finely punctured, fulvous, with a strong metallic green gloss; elytra of the same colour as, and scarcely more strongly punctured than the thorax, the punctuation very close, and arranged in double rows anteriorly, the

interstices very obsoletely costate near the apical and lateral margins; underside and legs fulvous, the base of the tibiæ piceous; legs rather short and robust.

Hab. BRITISH HONDURAS, river Sarstoon (*Blancaneaux*); GUATEMALA, Yzabal (*Sallé*), La Tinta, Chacoj (*Champion*); PANAMA.

The more than usually long thorax, its fine punctuation, and that of the elytra, together with the peculiar light metallic green colour, distinguish this species well from its allies. In the specimen from Panama in my collection the breast is also tinged with metallic green. The figure is drawn from the Mexican form.

12. **Colaspis fulvo-testacea.**

Colaspis fulvo-testacea, Lefèv. Mitth. Münch. ent. Verein. 1878, p. 123[1].

Hab. MEXICO, Tuxtla (*Sallé*); GUATEMALA, Zapote (*Champion*).—COLOMBIA[1].

A single male specimen from Mexico and a female from Guatemala which are before me do not seem to differ from M. Lefèvre's description of his species in any respect; and as several instances of species of *Colaspis* being common to Colombia and Mexico have occurred, I see no reason to separate the species. The difference in size of the sexes before me is very great, the female being considerably larger, and of nearly double the width of the male.

13. **Colaspis belti.** (Tab. VI. fig. 21.)

Oblong-ovate, piceous below, above fulvous; sides of thorax bidentate, middle of disk piceous; elytra closely punctate-striate, with an indistinct transverse piceous basal band; knees and base of tibiæ black.

Var. *a.* Thorax without dark spot.

Var. *b.* Entirely light fulvous.

Length $2\frac{1}{2}$–3 lines.

Base of the head very swollen, impunctate, flavous, with a deep transverse groove between the eyes; clypeus very strongly punctured; jaws black; antennæ slender, entirely flavous; thorax transversely convex, its sides greatly widened at the middle and produced into two distinct teeth, the basal angles also acutely dentate, surface of the disk closely and distinctly punctured, the sides a little less closely; an obscure ill-defined patch is situated in the centre of the base, but does not extend to the apex; scutellum fulvous; elytra deeply transversely depressed below the base, strongly and very closely punctate-striate, the punctuation getting more distinct and weaker towards the apex, where the interstices are slightly raised; the colour is the same as that of the thorax, but is interrupted below the base by a broad, more or less distinct, piceous band, which is common to both elytra, and extends to the lateral margin; underside piceous, last abdominal segments fulvous; legs of the same colour, the knees and base of the tibiæ black.

Hab. NICARAGUA, Chontales (*Belt, Janson*).

The description is drawn from a well-marked specimen; in another the dark marking of the thorax is wanting, and that of the elytra much less strongly defined, while the variety is entirely devoid of dark spots; but in all specimens the coxæ and knees are black. The male has, as usual, the anterior tarsal joint dilated. Three specimens were obtained by Belt, and one by Janson.

14. Colaspis inconstans.

Colaspis inconstans, Lefèv. Mitth. Münch. ent. Verein. 1878, p. 122[1].

Hab. MEXICO, Cordova (*Sallé*); BRITISH HONDURAS, Belize, river Hondo (*Blancaneaux*); GUATEMALA, Cahabon, Purula, Tamahu, San Juan (*Champion*).—COLOMBIA[1].

This is a small species of metallic-green colour, with light-flavous legs; the thorax is simply angulate behind the middle, very finely punctured; and the elytra are distinctly and rather regularly punctate-striate; the basal portion is transversely depressed, and the punctation there as well as at the sides much stronger; the posterior knees are generally piceous.

15. Colaspis hypoxantha.

Colaspis hypoxantha, Lefèv. Mitth. Münch. ent. Verein. 1878, p. 122[1].

Hab. MEXICO, Cordova (*Höge*).—COLOMBIA[1].

Two specimens from Mexico are before me which I must refer to M. Lefèvre's species, although with some degree of uncertainty, as the type must be compared. In these Mexican specimens there is a distinct basal depression of the elytra; in other respects they agree with the description.

16. Colaspis subcostatus.

Subelongate, obscure dark rufous or piceous; legs light fulvous; thorax angulate at the sides, closely punctured; elytra geminate-punctate-striate, the interstices costate.

Length $2\frac{1}{4}$–$2\frac{1}{2}$ lines.

♂. Head longitudinally depressed at the vertex, closely and finely punctured; clypeus more or less distinctly separated by a transverse groove; labrum narrow, testaceous; antennæ testaceous, the terminal joints more or less stained with fuscous; thorax twice as broad as long, the sides reflexed-marginate, angulate behind the middle, surface closely and finely punctured, but more strongly towards the base; elytra obsoletely depressed below the base, distinctly and rather strongly geminate-punctate-striate, the punctuation less strong and arranged in single rows towards the apex, where the interstices are slightly costate; underside obscure rufous, more or less stained with piceous; intermediate tibiæ curved.

♀. Larger, of a lighter fulvous colour, especially the thorax, the latter obsoletely bisinuate at the sides; elytra with a metallic greenish tint, the interstices throughout raised into longitudinal costæ; underside and legs fulvous; intermediate tibiæ but slightly curved.

Hab. PANAMA, Volcan de Chiriqui, 2000 to 3000 feet (*Champion*).

I have but little doubt that the four specimens obtained by Mr. Champion represent both sexes, although the differences in colour and sculpture are rather strongly expressed. The tarsi in the males are, as usual, strongly dilated, those of the females normal. *C. inquinata*, Lefèv., seems to be an allied species, but differs in the strong and distant punctuation of the thorax, and in its smaller size. The male of the present species is of a dark bronze or piceous colour; its longitudinal elytral costæ are only indicated; its thorax is more distinctly dentate at the sides, while that of the

female is broader, the sides sinuate; and the general colour of the latter sex is a lighter fulvous.

17. **Colaspis melancholica.**

Ovate, convex, purplish blue below; base of the antennæ fulvous; sides of thorax angulate; above obscure brownish æneous; elytra and thorax foveolate-punctate and transversely rugose, interior of punctures metallic green.

Length $2\frac{1}{2}$ lines.

Head closely punctured, with two raised metallic smooth spaces in front of the antennæ; the latter longer than half the length of the body, black, the five or six basal joints (the first excepted) fulvous; thorax narrowly transverse, the sides angulate behind the middle, surface strongly and closely punctured, the interstices raised into irregular smooth spaces of different sizes and shapes, of a dark bronze colour, the extreme lateral margin and the interior of the punctures of a metallic green or blue colour; elytra convex, of the same colour as the thorax, deeply and irregularly foveolate-punctate, the interstices partly transversely wrinkled and longitudinally costate; underside and legs metallic purplish blue.

Hab. MEXICO, Cordova (*Höge*), Tuxtla, Orizaba (*Sallé*); GUATEMALA, El Reposo, Zapote, Chacoj (*Champion*); PANAMA, Volcan de Chiriqui, 2000 to 3000 feet (*Champion*).

The sombre aspect of this species, the upperside of which is nearly black, while the metallic green interior of the punctures is visible without a glass, will make it recognizable at first sight, *C. derosa*, Lefèv., being, as it seems, the most nearly allied form. There is considerable difference in the shape of the male and female insects, the former being narrowed distinctly towards the apex, and the elytral costæ at the same time more regularly and strongly raised. In the female the thorax is porportionally narrow, and the elytra short and ovate.

18. **Colaspis suturalis.** (Taf. VI. fig. 19.)

Colaspis suturalis, Lefèv. Mitth. Münch. ent. Verein. 1878, p. 123[1].

Hab. MEXICO[1], Jalapa (*Höge*), Cordova, Tuxtla, Teapa, Playa Vicente (*Sallé*), Yucatan; BRITISH HONDURAS, river Sarstoon, river Hondo (*Blancaneaux*); GUATEMALA, Zapote, Panzos, Purula, San Gerónimo, Teleman (*Champion*); PANAMA, Volcan de Chiriqui (*Champion, Baly*).—COLOMBIA[1].

This pretty little species seems to have a wide range of distribution, and to have less tendency to vary in colour than is generally the case with members of this genus. It is easily recognizable on account of its colour, which is testaceous above, the head, sutural and lateral margins, as well as the entire underside being metallic-green; the punctuation of the elytra is arranged in close double lines, the interstices of which are costate. The specimen figured is from Playa Vicente.

19. **Colaspis balyi.**

Ovate, convex, obscure æneous; head and thorax closely punctured, the latter subangulate at the sides; elytra deeply subgeminate-punctate-striate, the interstices closely transversely wrinkled.

Length $2\frac{1}{4}$ lines.

Head and clypeus very closely punctured; antennæ longer than half the length of the body, black, three or four basal joints stained with fulvous, the rest gradually thickened and elongate; thorax transversely convex, the anterior angles acute, the sides subangulate behind the middle, surface very closely and strongly punctured, the interstices here and there, notably at the disk, raised into smooth spaces; scutellum small, narrowly oblong; elytra convex, more strongly punctured than the thorax, the punctuation arranged in subregular double rows, the interstices transversely wrinkled and obsoletely longitudinally costate; underside and legs very dark greenish æneous.

Hab. GUATEMALA, near the city (*Salvin*), Dueñas (*Champion*).

The differences between the present species and *C. melancholica*, to which it is closely allied, consist in the following points:—The antennæ in *C. balyi* are obviously more thickened at the terminal joints, although the latter themselves are not shorter; the thorax is much more closely punctured, as well as the elytra, which, instead of showing irregular raised spaces, are closely transversely wrinkled, the punctuation at the same time being arranged in double rows; lastly, the interior of the punctures is not of a different colour from the rest of the surface. *C. notaticornis*, Lefèv., seems to be a closely allied species, but differs in having the last joint of the antennæ black as well as the seventh, and in the three-dentate lateral margins of the thorax. Another allied species, *C. luridula*, Lefèv., differs in the punctuation of the thorax and the elytra.

20. **Colaspis laticollis.** (Tab. VII. fig. 6.)

Dark violaceous blue; antennæ (the last three joints excepted) and legs fulvous; tarsi black; thorax obsoletely angulate at the sides, strongly punctured.

♂. Narrowly oblong, convex; antennæ as long as the body.

♀. Larger, greatly widened posteriorly; antennæ shorter.

Head more or less strongly punctured at the vertex; palpi fulvous, the apical joint thickened, black; antennæ as long as the body, fulvous, the last three joints black; thorax rather broad, scarcely narrowed in front, the sides rounded, very obsoletely angulate behind the middle, surface moderately closely covered with oblong deep punctures; elytra distinctly and deeply transversely depressed below the base, the latter raised, closely punctate-striate, like the thorax of metallic dark-blue colour; legs fulvous; tarsi black, the anterior ones dilated in the male.

♀. Thorax and elytra less closely and strongly punctured, the latter greatly dilated; thorax more narrowed towards the apex.

Hab. MEXICO, Juquila, Cordova, Panistlahuca, Jalapa (*Sallé, Boucard, Höge*); GUATEMALA, Zapote, El Reposo (*Champion*); NICARAGUA, Chontales (*Belt*).

The differences in shape, and in some respect in sculpturing, between the sexes of the present species are very great, the female being of a much larger size and much more convex and gibbous than the male. M. Lefèvre has described a variety of his *C. impressa* which seems to agree to some extent with the present insect; but the tarsi in the latter and the last three joints of the antennæ are deep black in all the specimens before me, not "nigro-infuscatis," and the punctures of the elytra are not aciculate, but simple. The above variety has also been described from Rio Janeiro. A specimen from Cordova is figured.

21. **Colaspis impressa.** (Tab. VIII. fig. 23.)

Colaspis impressa, Lefèv. Ann. Soc. Ent. France, 1876, p. 139[1].

Hab. MEXICO, Cuernavaca (*Sallé*); GUATEMALA.—BRAZIL, Rio Janeiro[1].

Three specimens from M. Sallé's collection agree sufficiently with the author's description to enable me to place them with that species; but an examination of the type is necessary to be certain on this point. The species before me has the thorax crowded with oblong punctures; the antennæ are nearly black (in which respect they do not agree with the description); the elytra are finely punctate-striate, depressed below the base, and of a dark metallic-blue colour. The crowded punctuation of the thorax will separate this species from *C. laticollis.*

22. **Colapsis jansoni.**

Oblong-ovate, black; above metallic green; thorax very finely punctured; elytra depressed below the base, geminate punctate-striate near the suture, strongly and irregularly punctured at the sides.

Length 2 lines.

Head with a more or less distinct purplish tint, rather strongly but not very closely punctured, the space between the eyes impressed by a small fovea; clypeus finely punctured, not separated from the face; labrum obscure fulvous or piceous; antennæ black, the basal joints obscurely fulvous at the apex; thorax transverse, the sides angulate at the middle, the anterior angles produced into a distinct tooth; surface very finely and closely punctured; elytra distinctly depressed below the base, much more strongly punctured than the thorax, the punctures arranged near the suture in double lines at the base, but singly towards the apex, sides much more strongly and irregularly punctured, the interstices obsoletely transversely rugose; entire underside and legs black.

Hab. NICARAGUA, Chontales (*Janson, Belt*).

The small size, black underside and legs, in connexion with the fine punctuation of the thorax, will distinguish the present species, of which but two specimens were obtained by Janson and one by Belt.

23. **Colaspis godmani.**

Oblong, subovate, convex, fulvous; legs and base of the antennæ flavous; above metallic green; a basal round spot and a sutural and lateral longitudinal band, from below the base to the apex, obscure cupreous.

Length 1½ line.

Head strongly but not very closely punctured, deeply transversely grooved between the eyes; spaces in front of the antennæ raised, smooth; labrum and palpi fulvous; antennæ piceous, the first five or six joints light fulvous; thorax distinctly angulate at the middle; surface strongly and closely punctate; elytra deeply transversely depressed below the base, subgeminate punctate-striate near the suture, deeply punctured and transversely rugose near the sides, the latter from below the base to the apex narrowly cupreous, a broader band of the same colour running parallel with the suture, and a round cupreous spot occupying the base of each elytron; underside fulvous; legs flavous.

Hab. BRITISH HONDURAS, river Sarstoon, river Hondo (*Blancaneaux*); GUATEMALA, Zapote, Cahabon, San Juan, Cubilguitz (*Champion*); NICARAGUA, Chontales (*Janson*).

This pretty little species seems to be very closely allied to *C. pulchella,* Lefèv., from which it differs in the fulvous underside, the uniform flavous legs and tarsi, and in the

colour of the thorax, the latter being also sparingly punctured in *C. pulchella*. About twenty specimens, which show no variation, are before me, justifying the species being considered a distinct one.

24. **Colaspis plicatula.**

Oblong, piceous below ; legs and basal joints of the antennæ fulvous ; head and thorax obscure æneous, very closely punctured ; elytra subrugosely and geminate-striate punctate, fulvous, sutural and lateral margin æneous.

Var. *a*. Entirely obscure fulvo-æneous.

Var. *b*. Entirely fulvous, only the elytral margins æneous.

Length 2 lines.

Head moderately closely but finely punctured ; clypeus separated from the face at the sides by the distinctly raised smooth callosities in front of the antennæ ; labrum testaceous ; antennæ more than two thirds the length of the body, rather robust in the male, and with the terminal joints distinctly thickened ; thorax not narrowed in front, the posterior angles obtuse, and, like the sides, rounded, the latter slightly sinuate or obtusely angulate behind the middle, surface very finely and extremely closely subaciculate punctate ; scutellum oblong, its apex somewhat pointed ; elytra parallel at the sides, irregularly subrugosely punctured at their anterior half, geminate punctate-striate posteriorly, the punctuation much more strongly impressed than that of the thorax, and the interstices near the sides and apex distinctly costate.

Hab. GUATEMALA, Capetillo (*Champion*).

This species, of which about twenty specimens were obtained at Capetillo, only deviates somewhat in the form of its thorax from most of the species of this genus, inasmuch as the lateral margin of that part is nearly rounded, and only slightly angulate in some specimens ; but in all other respects I see no reason to separate it from the present genus. I have taken the darker-coloured specimens as typical, although they form but the minority, most of the others being of lighter colour ; but the thorax of nearly all of them shows an obscure metallic æneous tint. The species may be recognized by the extremely fine and close punctuation of its head and thorax, and the lateral costæ of its elytra ; these latter are much more deeply punctured in the female.

ALETES.

Aletes, Chapuis, Genera des Coléopt. x. 1874, p. 250.

The compressed, robust antennæ, large development of the eyes, and the shape of the thorax are the characteristics of this genus, which in other respect agrees with *Colaspis*. Since the establishment of the genus, founded on one species, M. Lefèvre has described five others, all from Colombia. The three species from Central America before me, although not quite so prominently marked in their generic structure as the type, agree nevertheless well enough to admit of their being included in the present genus.

1. **Aletes mexicanus.** (Tab. VII. fig. 5.)

Suboblong, black below ; basal joints of the antennæ and the legs fulvous ; above metallic blue ; thorax finely, elytra more strongly punctate-striate.

Length 3 lines.

Head rather strongly punctured, substrigose at the sides ; space between the eyes impressed with a shallow

fovea; labrum and palpi fulvous; antennæ half the length of the body, robust, the joints slightly thickened at their apex and compressed, fulvous, last five joints piceous; thorax transverse, moderately convex, anterior margin straight, posterior one rounded and produced at the middle, sides rounded, obsoletely three-sinuate, surface metallic bluish green, finely and rather closely punctured at the disk, a little more strongly at the sides; scutellum ovate; elytra slightly depressed below the base, punctate-striate near the suture, the interstices at the sides strongly transversely rugulose, the apex subcostate; underside black, last abdominal segment fulvous; legs of the same colour, robust; tibiæ dilated at the apex, anterior first tarsal joint dilated, as well as the posterior one.

Hab. MEXICO, Jalapa (*Höge*).

2. Aletes guatemalensis.

Subelongate, greenish black below; antennæ, legs, and abdomen fulvous; above metallic dark blue; thorax strongly punctured; elytra regularly subgeminate punctate-striate, transversely rugose at the sides.

Length $2\frac{1}{2}$ lines.

Head with a central longitudinal groove, closely covered with oblong punctures, more crowded at the sides; clypeus strongly punctate, limited in front by two smooth raised spaces; labrum and palpi fulvous, jaws black; antennæ robust, entirely fulvous; thorax less transverse than in *A. mexicanus*, its sides very obsoletely triangulate; surface very irregularly impressed with smaller and larger punctures, the latter predominating at the sides and the base; elytra very regularly and rather strongly subgeminate punctate-striate at the sutural half, transversely rugose and subfoveolate punctate at the sides, the interstices at the apex distinctly costate, the latter itself rather pointed; legs fulvous.

Hab. GUATEMALA, Capetillo (*Champion*).

Although only a single specimen of this species was obtained at Capetillo, I believe it to be distinct from *A. mexicanus*, as well as from *A. variabilis*, on account of the much more regular punctuation of the elytra, which in the latter species are distinctly geminate punctate-striate and deeply depressed below the base, this depression being only slightly indicated in the present insect; the thorax is also much more strongly punctured; and the insect is of smaller size.

3. Aletes variabilis. (Tab. IX. fig. 1.)

Subelongate, fulvous below; above metallic green or purplish; head strigose-punctate; thorax minutely punctured, its sides bisinuate; elytra subgeminate punctate-striate, sides transversely rugose.

♀. Elytra with a row of tubercles at the sides.

Var. *a*. Antennæ and legs entirely fulvous.

Var. *b*. Underside, legs, and antennæ black.

Length 3–$3\frac{1}{2}$ lines.

Head longitudinally grooved in the centre, closely and strongly strigose-punctate; clypeus deeply concave-emarginate, its sides angulate; labrum fulvous; antennæ one third the length of the body, robust, either entirely fulvous or with the terminal joints black; thorax not more than twice as broad as long, sides rounded and narrowly margined, more or less distinctly bisinuate, surface moderately closely and very finely punctured; scutellum subovate, metallic green or obscure fulvous; elytra elongate, pointed towards the apex, deeply transversely depressed below the base, strongly geminate punctate-striate near the suture, rest of the surface irregularly punctured and near the sides transversely rugose.

♀. Elytra generally less strongly punctured on the disk, with one or two rows of tubercles of irregular shape from the shoulder to more than two thirds the length of the elytra.

Hab. GUATEMALA, Purula, Sabo, Sinanja (*Champion*).

Of this species about thirty specimens were obtained, principally from Purula; they

show a good deal of variation in colour as well as sometimes in the strength of their punctuation, varying above from brilliant purplish or copper-colour to metallic green, and below from fulvous to black. The species may be recognized by the deep elytral depression below the base, which is plainly visible to the naked eye, by the close and strong punctuation of the head and the minute punctuation of the thorax. A female specimen from Sabo is represented on the Plate.

RHABDOPHORUS.

Rhabdophorus, Lefèvre, Mitth. Münch. ent. Vereins, 1878, p. 126.

This genus was founded by M. Lefèvre on a few species from Colombia, having the general characters of *Colaspis*, but differing in the shape of the thorax, which is much more transverse in *Rhabdophorus*, and in the greater width of the prosternum. Both characters, although well expressed in some species, seem to be subject to modifications, some forms from Central America showing intermediate structural characters which would with equal right include them in either genus.

1. **Rhabdophorus mexicanus.** (Tab. VIII. fig. 24.)

Ovate, convex, fulvous; above submetallic green; thorax distantly punctured; elytra deeply subgeminate punctate-striate, the interstices at the apex costate.

Var. *a*. Entirely light fulvous.

Head swollen at the vertex, distantly punctured, with a deep longitudinal groove in the middle; palpi very slenderly filiform; antennæ two thirds the length of the body, fulvous, joints eighth and the last two piceous; thorax transverse, slightly narrowed towards the apex, finely margined, the sides scarcely visibly angulate at the middle, surface distantly punctured at the disk, smooth and impunctate near the margins; scutellum rounded, small; elytra convex, slightly geminate punctate-striate near the suture, the punctures arranged in single and close lines towards the sides, where the interstices are somewhat rugose, while those near the apex are strongly raised into longitudinal costæ; underside and legs dark fulvous, stained with piceous at the breast; tarsi entirely of that colour, those of the male greatly dilated.

Hab. MEXICO, San Andres Tuxtla, Playa Vicente, Santecomapan (*Sallé*, *Boucard*); GUATEMALA, Isabal (*Sallé*), Purula, Zapote, Chacoj (*Champion*); PANAMA, Volcan de Chiriqui, 2000–3000 feet (*Champion*).

The general colour of the upperside in this species is a light fulvous with a strong metallic-green gloss; the punctuation of the thorax is rather fine and notably distant. From the entirely light fulvous colour of the variety (a specimen of which is figured from Tuxtla) to that of the type, intermediate shades are before me; in other respects the specimens show scarcely any difference. The prosternum in this species is distinctly broader than in species of the genus *Colaspis*. Two specimens from Chiriqui differ in the finer punctuation of the thorax, but in no other way.

2. **Rhabdophorus salvini.** (Tab. IX. fig. 2.)

Ovate, fulvous; thorax finely and remotely punctured; elytra metallic green, subgeminate punctate-striate, the sides deeply punctured and transversely rugulose.

Length 3 lines.

Head rather closely covered with larger and smaller punctures; clypeus indistinctly separated from the face, its apex deeply concave-emarginate; antennæ two thirds the length of the body, fulvous, the three or four last joints piceous; thorax nearly as wide as the elytra, very moderately deflexed anteriorly, the anterior angles acute, its sides rounded and narrowly margined, surface more or less distinctly but remotely punctured at the disk, more closely at the sides, entirely fulvous; scutellum of the same colour; elytra metallic green, their apex rather pointed and narrowed, surface with three double rows of punctures, which unite, however, into single lines towards the apex, near the suture, the rest of the disk deeply and closely punctate-striate, the interstices towards the sides closely and strongly transversely wrinkled and rugose; underside and legs entirely fulvous.

Hab. MEXICO, Oaxaca (*Boucard, coll. Sallé*); GUATEMALA, near the city (*Salvin*).

The fulvous colour of the legs, head, and thorax, and the metallic-green elytra, make this species recognizable at first sight; the punctuation of the thorax seems subject to variation, being much finer in some specimens than in others; and the head is sometimes of a distinct metallic-green colour, this latter being entirely absent in others. The species does not seem to be an abundant one, as only five specimens are before me from Mexico and Guatemala. One from the latter country is figured.

3. Rhabdophorus perplexus.

Oblong, light fulvous; seventh and two last joints of the antennæ black; above fulvous with a metallic-green gloss; thorax closely and finely punctured; elytra geminate punctate-striate, the interstices costate.

Length 3 lines.

Head with a few deep punctures, impressed between the eyes; clypeus separated from the face by two fine lateral grooves, punctured, its apex deeply concave-emarginate; terminal joint of palpi piceous; elytra two thirds the length of the body; thorax distinctly narrowed in front, transverse, its sides rounded or obsoletely sinuate, its surface irregularly and closely covered with larger and smaller punctures; scutellum subpentagonal; elytra very strongly geminate punctate-striate anteriorly and near the suture, simply punctate-striate towards the apex, rest of the disk more irregularly punctured and transversely rugose; the interstices at the apex strongly costate, those of the other parts subcostate; underside and legs light fulvous; prosternum broad.

Hab. GUATEMALA, Purula (*Champion*).

Of this species about fifty specimens were sent by Mr. Champion. The shape of the thorax is much more that of a true *Colaspis* than it is generally in the genus before us; but the broad prosternum shows its affinity to *Rhabdophorus*. In colour the species much resembles *Colaspis submetallica*; but the absence of the teeth at the sides of the thorax in the present insect will at once distinguish it.

4. Rhabdophorus jansoni.

Oblong-ovate, piceous below; above metallic dark green; thorax finely and remotely punctured; elytra very strongly punctate-striate, the apex longitudinally costate, the sides subrugose.

Length 3–3½ lines.

Head closely punctured; clypeus rugose-punctate; antennæ fulvous, the seventh joint piceous, the rest wanting; thorax transverse, the sides evenly rounded and narrowed towards the apex; surface finely and remotely punctured on the disk, more closely towards the side; scutellum distinctly broader than long; elytra of a dark metallic green colour, very obsoletely depressed below the base, the punctures arranged in rather

close and regular rows, the first two near the suture subgeminate, extreme apex costate; another submarginal costa extends higher up towards the base; the interstices between the apical costæ scarcely punctured.

Hab. NICARAGUA, Chontales (*Janson*).

Although the punctuation of this species is almost the same as that of *R. mexicanus*, the shape, which is more elongate, and the metallic green of the upperside and the piceous colour below, as well as the stronger punctuation of the elytra, will separate the present insect.

5. **Rhabdophorus rugosus.** (Tab. VII. fig. 8.)

Oblong, parallel, convex, fulvous below; above submetallic green or æneous; thorax strongly and closely punctured, very broad; elytra strongly punctate-rugose, the interstices transversely wrinkled.

Length 3 lines.

Head broad, flat, closely covered with large and small punctures; space in front of the clypeus irregularly depressed, the latter anteriorly deeply concave, emarginate; labrum fulvous; antennæ half the length of the body, fulvous, the last three joints generally piceous; thorax narrow, nearly three times as broad as long, the sides much and regularly rounded, distinctly marginate, the anterior angles acute and slightly produced outwards; surface everywhere closely and strongly punctured; elytra not wider at the base than the thorax, parallel, closely punctate-striate near the suture, the rest very irregularly and strongly punctured, the interstices, especially those at the sides, transversely rugose.

Hab. MEXICO, Cordova, Tuxtla, Playa Vicente (*Sallé*, *Höge*).

The metallic green colour of this species is greatly reduced by the fulvous ground-colour shining through it, in which respect it differs from *R. salvini*, which is of a bright green colour; in general shape, however, it nearly approaches this species, although rather more parallel-sided; but the two insects are at once distinguished by the difference in the punctuation of the thorax, which in the present one is strongly and closely punctured, the same part being more finely and distantly punctate in *R. salvini*. From *R. mexicanus* the species before us may be separated by the much greater width of the thorax, which gives the insect the appearance of a species of *Chrysomela*. The punctuation of the female is still more strongly impressed than that of the male insect. Five specimens are before me for comparison, of which one from Cordova is figured.

6. **Rhabdophorus guatemalensis.** (Tab. VIII. fig. 22.)

Oblong-ovate, æneous; antennæ testaceous, the seventh and the two terminal joints black; thorax finely and closely punctured; elytra closely geminate punctate-striate, the interstices costate.

Length $2\frac{1}{2}$ lines.

Head rather closely and finely punctured, especially at the clypeus, with a fine central groove, ending in a broader depression between the eyes; labrum light fulvous; antennæ half the length of the body; thorax narrowly transverse, the sides much deflexed anteriorly, the lateral margin subangulate behind the middle, surface finely and closely punctured, more so at the sides than on the disk, with an obsolete shallow depression at each side; elytra narrowly oblong, convex, slightly transversely depressed below the base, their apex subacute, surface deeply geminate punctate-striate at the sutural portion, irregularly punctured

near the sides, interstices distinctly costate at the posterior half, less so anteriorly; legs and underside obscure fulvous, with a more or less distinct æneous gloss; prosternum broad, much widened at its base.

Hab. MEXICO, Cosamalcapam, Puebla, Playa Vicente (*Sallé*, *Höge*); GUATEMALA, San Gerónimo, Senahu, Panzos, Sinanja, Mirandilla (*Champion*); NICARAGUA, Chontales (*Janson*); BRITISH HONDURAS, river Sarstoon, river Hondo (*Blancaneaux*).

In shape this species resembles *R. perplexus*, at least the male, which is narrower than *R. hypochalceus*, Har., from which the close punctuation of the thorax and the double rows of punctures at the elytra separate it. *R. perplexus* differs principally by its light fulvous colour, with but a slight metallic gloss, and by the more regularly punctured thorax; the female of the present species is broader, but resembles the male in all other respects. *R. curtus*, Lefèv., seems to be another closely-allied species; but the thorax here is described as remotely punctured, and the interstices of the elytra very finely punctate. A specimen from San Gerónimo is figured.

7. Rhabdophorus chontalensis.

Ovate, convex, obscure fulvous; above submetallic green or æneous; antennæ testaceous, joints seventh and the last two piceous; thorax finely punctured; elytra costate at the sides, finely punctate-striate.

Length 2 lines.

Head swollen at the vertex, nearly impunctate; clypeus distinctly separated from the face, closely punctured, its anterior margin nearly straight; labrum fulvous; antennæ more than half the length of the body, with the seventh and the last two joints piceous; thorax very transverse, its sides greatly rounded, anteriorly narrowed, but little deflexed, the lateral margins scarcely visibly angulate, the anterior angles acute, but not produced; surface very finely and rather closely punctured; scutellum broadly ovate; elytra distinctly transversely depressed below the base, and longitudinally within the humeral callus, finely and remotely punctate-striate towards the suture, the latter accompanied by a row of closer punctures, which change posteriorly into an impressed line, the sides more strongly punctured, the interstices forming two or three more or less distinct longitudinal costæ, which are more strongly visible towards the apex.

Hab. NICARAGUA, Chontales (*Janson*).

Only two specimens of this very distinct species are before me, one of much lighter colour than the other and probably immature; the fine punctuation of the thorax and that of the elytra (the punctures on the latter being, at the same time, very remotely placed) will easily distinguish this species from the others described here.

8. Rhabdophorus violaceus.

Ovate, convex, violaceous blue; antennæ (their basal joints excepted) and the tarsi black; thorax finely, elytra more strongly and regularly punctate-striate.

Length 2 lines.

♀ larger; thorax much dilated at the middle; elytra deeply depressed below the base.

Length 3 lines.

Head with a narrow central groove, distinctly punctured between and in front of the eyes, the latter very large and prominent; clypeus square-shaped, punctured on the disk, rather convex, its anterior margin nearly straight; palpi testaceous, their terminal joint piceous; antennæ two thirds the length of the body, slender, filiform, black, the first five joints testaceous below; thorax narrowly transverse, much dilated at the sides, almost angulate behind the middle, with a very distinct margin, the angles obtuse and rather rounded, surface rather closely and finely punctured; elytra convex, distinctly narrowed towards the

apex, with a shallow depression below the base; shoulders scarcely prominent, surface regularly punctate-striate, the punctuation stronger than that of the thorax, but getting finer towards the apex; prosternum broad, pubescent.

Hab. NICARAGUA, Chontales (*Janson*).

The uniform violaceous colour distinguishes this species well from any of its allies; and although its general shape resembles almost entirely that of a species of the genus *Chalcophana*, the broad and truncate prosternum will at once reveal its proper place. The female is much larger, the thorax much more dilated at the sides; and the tarsi are of normal shape, while those of the male are distinctly widened, as is usually the case. One male and two female specimens were obtained by Janson.

9. **Rhabdophorus fulvipes.**

Ovate, piceous below; legs and antennæ fulvous, joints seventh and the two terminal ones piceous; above æneous; thorax subremotely punctured; elytra subgeminate punctate-striate, their apex longitudinally costate; tarsi piceous.

Var. Tarsi as well as the legs fulvous.

Length 2–2½ lines.

Head rather closely and distinctly punctured; clypeus not separated from the face; labrum fulvous; antennæ about half the length of the body, light fulvous, the seventh and two last joints piceous, nearly equal in length; thorax transverse, the sides deflexed anteriorly, all the angles acute and slightly produced outwards, surface irregularly and deeply punctured, remotely at the disk, closely and subfoveolate punctate at the sides, the interstices very minutely punctate, the lateral margins more or less distinctly angulate behind the middle, brownish æneous, the extreme lateral margins metallic green; scutellum subrotundate, smooth; elytra with the following striæ of deeply impressed punctures—a very short sutural one below the scutellum, the three following rows consisting of double punctures anteriorly, but arranged in single punctured striæ behind the middle, the rest of the sides much closer and more irregularly punctured, all the interstices towards the apex longitudinally and distinctly costate, the apex of the costæ joined; underside piceous; legs fulvous, extreme apex of the tibiæ and the tarsi piceous; the latter much dilated in the male.

Hab. MEXICO, Cosamalcapam, Santecomapan (*Sallé*); GUATEMALA, Chacoj, La Tinta, San Juan, Teleman (*Champion*); BRITISH HONDURAS, river Hondo, river Sarstoon (*Blancaneaux*); PANAMA, Volcan de Chiriqui (*Champion*).

This is without doubt a closely allied form to *R. caliginosus*, Lefèv., and *R. curtus*, from which it may be at once distinguished by its smaller size and the fulvous legs and piceous tarsi. I have many specimens before me from the above localities, which show a good deal of variation in the sculpturing of the thorax and the elytra, some being almost regularly punctate-striate anteriorly, while others have the punctures arranged in double lines; but I do not think that this difference, of which intermediate degrees are not wanting, is sufficient to constitute different species, the constant character (the fulvous legs) not being wanted in any of them; there are also, in most specimens, indications of costæ at the base of the elytra and a slight depression below the latter. Whether the species is identical with one of the above named forms described by M. Lefèvre, it is impossible to say without comparing the types.

10. Rhabdophorus thoracicus.

Greenish æneous; antennæ testaceous, joints fifth to eighth and the two terminal ones black; thorax irregularly and strongly punctured, the sides angulate before the middle; elytra punctate-rugose, apex costate; legs fulvous.

Length 2½ lines.

♂. Head finely and closely punctured, vertex with a central longitudinal groove, and another transverse one between the eyes, the latter large and prominent; clypeus closely punctured, separated from the face laterally by two fine grooves; labrum fulvous; jaws black; joints of the antennæ, with the exception of the second one, slender and elongate; thorax transverse, scarcely narrowed anteriorly, the sides nearly straight at the base, distinctly angulate before the middle, surface closely rugose punctate and subfoveolate at the sides, centre of the disk very sparingly punctured, the interstices somewhat raised here and there, extreme lateral margin reflexed, metallic green; scutellum broadly ovate; elytra moderately convex, slightly narrowed towards the apex, almost entirely and irregularly rugose, especially at the sides, the interstices punctured, the apex obsoletely costate; legs dark fulvous; tarsi black; prosternum broad, a little longer than wide, the base very slightly concave.

Hab. NICARAGUA, Chontales (*Janson*); PANAMA, Volcan de Chiriqui (*Champion*).

This species, of which two male specimens were lately received, is well distinguished by the antemedian angulation of the sides of the thorax and the strongly rugose sculpture of the elytra; the insect seems, without doubt, very closely allied to *R. tuberculatus*, Lefèv.; but in this species, which inhabits Colombia, the middle of the thorax is given as angulate, and the elytra are described as irregularly punctured.

11. Rhabdophorus intermedius.

Ovate; obscure metallic green; legs and antennæ fulvous, joints seventh and the two terminal ones of latter black; thorax finely punctured, the sides bidentate; elytra subgeminate punctate and rugose, interstices longitudinally costate.

Length 2¼ lines.

Head sparingly punctured at the vertex, with a longitudinal central groove, and an obscure transverse cupreous band at the base; clypeus strongly punctured anteriorly, distinctly separated from the face, limited in front of each eye by a smooth raised callosity of metallic cupreous colour; antennæ of half the length of the body; thorax transversely convex, the angles scarcely prominent, the sides distinctly dentate before and at the middle, surface rather closely and finely punctured; elytra strongly convex towards the middle, rather abruptly declined to the apex, like the thorax obscure metallic green, geminate punctate-striate anteriorly and near the suture, strongly punctate-rugose at the sides, the interstices towards the apex raised into strong longitudinal costæ; legs and tarsi fulvous; prosternum very broad, punctate-rugose.

Hab. GUATEMALA, Sabo (*Champion*).

Although I have only a single female specimen of this species to compare, I must consider it a new one, on account of the finely and evenly punctured thorax in connexion with the bidentate sides of the latter.

CORYSTHEA.

Corysthea, Baly, Trans. Ent. Soc. 3rd ser. ii. 1865, p. 336.

Corycia, Baly, Journ. of Ent. ii. p. 222.

The genus founded by Mr. Baly is one of two genera, containing a good many species,

in which the principal character is to be found in the concave emarginate or even bilobed base of the prosternum. In the present genus this character is but slightly expressed; and in one of the types before me (*C. ferox*) the base of the prosternum might almost be called truncate, resembling thus the genus *Rhabdophorus*.

The antennæ seem also subject to variation, unless the two species described do not, in reality, belong to the same genus. In *C. funesta* these organs are very slender and filiform; but in *C. ferox* they are proportionally very short, scarcely extending to beyond the first third of the elytra, and their terminal joints, instead of being filiform and slender, are distinctly shortened and thicker than the rest of the joints. It must be left to future studies to decide whether these differences are sufficient for the erection of a separate genus or not, and if real advantages in the study of entomology are obtained in drawing the lines so close as to necessitate continual erections of genera already bewilderingly numerous. In addition to the shape of the prosternum the present genus is otherwise distinguished by the transversely dilated thorax, which in the allied genus is narrowed anteriorly.

1. **Corysthea violacea.** (Tab. IX. fig. 3.)

Oblong-ovate, black below; base of the antennæ and the legs fulvous; above violaceous blue, shining; thorax minutely punctured; elytra distinctly punctate-striate; ♂ posterior tibiæ with a long spine.

Length 2 lines.

Head finely and distantly punctured at the vertex, closely and strongly at the clypeus, the latter not separated from the front, its anterior margin straight; labrum fulvous; antennæ two thirds the length of the body, entirely fulvous, or the basal joints only of that colour; thorax rather long, not more than twice as broad, very moderately narrowed in front, sides rounded and entire, the angles not produced, surface extremely closely and finely punctured; scutellum ovate, broad; elytra distinctly transversely depressed below the base, closely punctate-striate, the punctuation, especially near the sides, much more deeply impressed than that of the thorax, the impunctate smooth interstices becoming much broader at the apex than at the rest of the surface; legs rather robust, the posterior tibiæ in the male armed with a long spine.

Hab. GUATEMALA, Zapote, Capetillo (*Champion*).

In the presence of a spine at the posterior tibiæ of the male the species here described agrees with *C. ferox*; it is sufficiently distinct from the latter by its less robust shape, the fine punctuation of its thorax, and the fulvous colour of the legs. Eight specimens were obtained by Mr. Champion.

Note.—The insect figured as *Corysthea hoegii* (Tab. VII. fig. 3) now proves to be a variety of *Coytiera fulvipes* (anteà, p. 126).

CHALCOPHANA.

Chalcophana, Chevr., d'Orbign. Dict. Hist. Nat. iii. 1843, p. 372.

Cychrea et *Eriphyle,* Baly, Journ. Entom. ii. p. 222.

The species comprised in this genus seem to rival in point of numbers the genus

Colaspis, with which they have their general shape in common. They are at once distinguished from the last-named genus by the rounded, not dentate, lateral margin of the thorax and the bilobed prosternum. A great many species seem very closely allied; and their determination, as is the case in the genus *Noda* and *Colaspis*, is not easy. The females in *Chalcophana* are mostly provided with ribs or costæ on the elytra, but not invariably so; and this is also sometimes the case in the male. *Eriphyle*, Baly, has the antennæ rather more dilated than usual, but has been included by Chapuis in the present genus. *Cychrea*, however, is a true *Chalcophana*.

The species of this genus are very numerous, and found in most parts of the New World; seven or eight species have been described from Central America, the rest from the more southern parts of the continent.

1. **Chalcophana cincta.** (Tab. VII. fig. 9.)

Chalcophana cincta, Klug, Dej. Cat. 3rd ed. p. 431[1]; Harold, Coleopt. Hefte, xii. 1874, p. 76[2].
Chalcophana klugi, Dej. Cat.[3]

Hab. Mexico [1 2 3], Cordova, Tuxtla, Orizaba, Teapa, Yolos, La Parada, Jalapa (*Sallé*, *Höge*); British Honduras, rivers Sarstoon, Hondo (*Blancaneaux*); Guatemala, Capetillo, Sabo, Sinanja, San Gerónimo (*Champion*, *Salvin*); Costa Rica, Cache (*Rogers*).

This is one of the common species which are generally received in great numbers from Mexico. It may be known by its metallic green or bluish upper surface, and by the transverse fulvous band of the elytra, which extends across the disk and to the lateral margins; this band is generally very narrow, but often varies in width; but its anterior margin is almost always straight, while the posterior one is oblique. The male is usually smaller than the female; and the punctuation of the elytra is subject to variation, some specimens showing a much stronger punctuation than others; the antennæ have the last five or six joints black, the rest are fulvous. Several specimens without the fulvous band, but differing in no other respect, were obtained at Sabo by Mr. Champion.

2. **Chalcophana championi.**

Fulvous; last eight or nine joints of the antennæ black; elytra metallic green, rugose punctate-striate; the lateral margins and a rhomboidal spot at the middle of the disk fulvous.

Length $2\frac{1}{2}$–$3\frac{1}{2}$ lines.

♂. Head finely punctured, longitudinally impressed between the eyes; antennæ more than two thirds the length of the body, slender, black, the first three joints fulvous; thorax transverse, but little narrowed in front, anterior angles produced into a distinct tooth, surface deeply but remotely punctured; scutellum fulvous; elytra distinctly narrowed towards the apex, the latter acute, closely geminate punctate-striate near the suture, rest of the surface more irregularly and more strongly punctured, the interstices transversely rugose at the sides, with indications of short longitudinal costæ at the shoulder and base; elytra bright metallic green, with a rhomboidal or triangular spot at the middle of the disk, the lateral margins and the apex fulvous; apex of the tibiæ and the tarsi generally, but not always, black.

♀. Larger and broader; head strongly and closely punctured; thorax covered with large and small punctures;

elytra strongly rugose punctate at the sides, deeply transversely depressed below the base, the interstices strongly longitudinally costate at the sides.

Hab. GUATEMALA, Capetillo, Purula (*Champion*); COSTA RICA (*van Patten*).

This species cannot possibly be considered a variety only of *C. cincta*; all the numerous specimens before me show the same characters. The species is separated from *C. cincta*, first by the strong punctuation of the elytra and their rugose interstices, secondly by the shape of the fulvous spot, which never extends to the lateral margins of the elytra, but ends on each side in a sharp point, and lastly by the shape of the prosternum, which has its base concave emarginate, but not distinctly bilobed as in *C. cincta*.

3. **Chalcophana depressa.**

Oblong, subdepressed above; fulvous; elytra closely and strongly punctate-striate, the sides with two or three highly raised costæ, metallic green, a broad central transverse band, the lateral margins and apex fulvous.

Length 3–3½ lines.

Head rather strongly and closely punctured, the vertex swollen; clypeus triangular, separated in front by a distinct depression, which at each side is limited by an elevated smooth space; apex of the jaws piceous; antennæ two thirds the length of the body, entirely fulvous, shining, the last five joints thickened and opaque in consequence of fine pubescence; thorax rather convex, all the angles produced outwards and acute, surface distinctly and not more strongly punctured than the head; scutellum fulvous, its apex rounded; elytra distinctly flattened at the centre of the disk, the sides and the apex much deflexed; the humeral callus produced into a short but highly raised oblique ridge, behind which two equally raised costæ run in a rather curved line towards the apex, without, however, extending to the latter, rest of the surface deeply and rather irregularly punctate-striate, the interstices near the apex and in front of the above-mentioned costæ also more or less distinctly raised.

Var. *a*. Above violaceous blue, last six joints of the antennæ piceous; the central elytral band much narrower.

Var. *b*. Antennæ black, the three basal joints fulvous only; the apex of the tibiæ and the tarsi black; the elytral band very narrow at the sides and abbreviated.

Hab. MEXICO, Cordova, Oaxaca, Guanajuato (*Höge*, *Sallé*).

Of this species only specimens of the female sex are before me; but I do not doubt that they represent a distinct form, of which the principal distinguishing characters are the sharp and highly raised lateral costæ, and the close and deep punctuation of the elytra, which does not run in double lines, as well as the flattened upper surface of the latter. The specimens from Cordova have the antennæ entirely fulvous; but in one from Oaxaca and another from Guanajuato the last joints are black, and the band of the elytra is much narrowed, this latter being particularly broad in the Cordova specimens. The above characters are sufficient to distinguish the present insect from *C. cincta*.

4. **Chalcophana ancora.**

Chalcophana ancora, Harold, Coleopt. Hefte, xii. 1874, p. 78[1]; Sturm, Cat. 1843, p. 294[2].

Hab. MEXICO[1 2], Cuernavaca (*Sallé*); GUATEMALA, near the city, Zapote (*Champion*); COSTA RICA (*van Patten*).

From *C. cincta* the present species may be known by the shape of the fulvous band of the elytra, which extends not only in a transverse, but also in a longitudinal direction along the posterior part of the suture; the male seems to have the thorax much more closely punctured, the elytra deeply and rather irregularly punctate-striate, while in the female these parts are more distinctly punctate-striate and the interstices subcostate; the usual triangular dilatation of the anterior tarsi in the male is also present here; and one specimen belonging to the latter sex from Mexico, which is before me, shows the following differences: the eyes are more prominent and larger, the antennæ rather shorter and much more robust; and the thorax is more closely punctured: but as I have only this one specimen to compare, I am not able to decide upon its specific value. In all the Guatemalan specimens, which are females, the fulvous colour occupies a much greater space of the elytra at the apex, reducing the green portion to a more or less oblong or rounded spot; while in one specimen, which, by its sculpturing, evidently belongs to the present species, the transverse band is entirely absent, the margins and apex only being fulvous.

5. **Chalcophana mutabilis.** (Tab. VI. figg. 22, 23, 24.)

Chalcophana mutabilis, Harold, Coleopt. Hefte, xii. 1874, p. 75 [1].

Hab. Mexico, La Parada, Oaxaca (*Sallé*); Guatemala, Zapote, Las Mercedes, El Zumbador, Panima, Tamahu, San Gerónimo (*Champion*); Nicaragua, Chontales (*Janson, Belt*); Costa Rica[1], Volcan de Irazu, Cache (*Rogers*).

This is a most variable species in regard to colour, being either entirely fulvous or dark blue, with the apex and margin of the elytra fulvous, while others have two larger or smaller blue spots on each elytron. The species may, however, be known by the sculpturing of the elytra, which consists of double rows of fine punctures, the female having three distinct lateral costæ at the sides and a deep transverse depression below the base: these costæ are absent in the male; but a deep oblique longitudinal depression in front of the shoulders indicates the position of the principal costa. The constant characters in both male and female seem to be the almost or totally impunctate head and thorax, the first three rufous joints of the antennæ, and the colour of the tibiæ, which are either entirely black or rufous at their bases only. I have before me from Chiriqui one specimen which exactly resembles *C. cincta* in coloration, except that the fulvous elytral band is very narrow and straight; but the characters pointed out above are all present here, and prove it to belong to the present species; specimens with metallic-green elytra have also been received from the latter locality.

6. **Chalcophana wagneri.**

Chalcophana wagneri, Harold, Coleopt. Hefte, 1874, p. 72 [2].

Hab. Guatemala[1]; Nicaragua, Chontales (*Janson, Belt*).

Two specimens, a male and a female, from Costa Rica agree well with von Harold's description; the species may be separated by the entirely red antennæ and legs, and by the elytral apex, which is of the same colour, the lateral margins remaining of the ground-colour. I may add to von Harold's description that the female has the elytra simply punctate-striate, double rows of punctures being visible only in the male; the specimen of the latter sex before me has the thorax nearly impunctate. The size of $3\frac{1}{2}$ *millim.* as given by v. Harold is evidently a mistake, as the species has a length of three to three and a half *lines*, and the author draws attention to the larger size of the insect in comparing it with others.

7. Chalcophana germari.

Elongate, convex, rufous; apex of tibiæ, tarsi, and the antennæ (their two basal joints excepted) black; elytra metallic green, subgeminate punctate-striate, the lateral margin and the apex rufous.

♀. Larger; elytra more distinctly geminate punctate, deeply transversely depressed, the sides with three or four more or less distinct costæ.

Var. Above violaceous blue.

Length $2\frac{1}{2}$–$3\frac{1}{2}$ lines.

Head rather swollen, the vertex impressed with larger and smaller punctures; clypeus impunctate, triangular, its anterior margin concave; antennæ two thirds the length of the body, black, the two, and sometimes three, basal joints rufous; thorax transverse, not narrowed anteriorly, the anterior angles acute and somewhat produced, surface rather distantly punctured, the punctuation resembling that of the head; scutellum rufous; elytra with a short longitudinal depression within the humeral callus, strongly, closely, and rather irregularly punctured anteriorly, but the punctures arranged in more regular and double rows towards the apex, the latter as well as the lateral margins narrowly rufous; underside and legs entirely of this colour, the apex of the anterior and that of the other tibiæ (but to a smaller extent), as well as the tarsi, black.

Hab. Mexico, Jalapa, Orizaba, Cerro de Plumas, Cordova, La Parada, Oaxaca (*Sallé, Höge*).

Although closely allied to *C. wagneri*, *C. fraterna*, and *C. consobrina*, the present species, which is before me in great numbers, shows sufficient differences to justify its separation. *C. fraterna*, Har., seems to be the nearest allied form, but is described as entirely devoid of costæ (the author does not mention if this applies to both sexes), and as having entirely red legs; the punctuation is also given as regular. *C. consobrina* differs by the same want of costæ and by the fine punctuation of its elytra, especially near the apex, and *C. terminalis* by the greater extent of the rufous colour of the elytra and their finer punctuation. I have no doubt that the females before me from the same locality belong to the present species: the elytra are much more regularly geminate punctate-striate; but the punctures themselves are quite as distinct, and nearly as strongly marked at the apex as at the anterior portion; besides the longitudinal basal depression of the male, there is a distinct and deep transverse one below the base, from which, near the shoulders, three or four very distinct costæ run parallel with the lateral margin, the inner one being, however, very short, the following gradually increasing in length, and all of them uniting at a little distance from the apex. By

far the greater number of specimens are of a metallic-green colour, only two being violaceous blue and having the first four joints of the antennæ rufous, but differing in no other way whatever.

8. **Chalcophana terminalis.**

Chalcophana terminalis, Harold, Coleopt. Hefte, xii. 1874, p. 71[1].

Hab. Costa Rica [1].

Again closely allied to *C. germari* and similarly coloured species, but, according to von Harold, to be separated by the very fine punctuation on the disk of the elytra, and the colour of their apex, which is rufous and extends much further upwards than in the other allied species.

9. **Chalcophana apicalis.**

Chalcophana apicalis, Harold, Coleopt. Hefte, xii. 1874, p. 74[1]; Sturm, Cat. 1843[2].

Hab. Mexico (*Sallé*).—Brazil [1 2].

The most important character of separation between this species and others similarly coloured is the sharply raised humeral callus and another equally sharp ridge extending from the shoulder nearly to the apex. Whether this character is peculiar to the female only or to both sexes, the author does not mention. I have now a single specimen from the collection of Sturm, and contained in that of M. Sallé, which has the above characters well expressed; it is a female, with bright metallic-green elytra.

10. **Chalcophana semirufa.**

Chalcophana semirufa, Jacoby, P. Z. S. 1878, p. 988.
Chalcophana uniformis, Jacoby, ibid. p. 989.

Hab. Costa Rica (*van Patten*).

I have now no doubt that *C. uniformis* described by me is but a variety of the present species, as I suspected at the time I described it. The upper colour of the insect is a greenish bronze, the variety being entirely dark rufous, which latter colour occupies the extreme sides and apex of the elytra only of normally coloured specimens; in this respect it resembles several species, but differs from all in the rufous first six joints of the antennæ, a character which is constant in all the specimens.

11. **Chalcophana violaceipennis.**

Chalcophana violaceipennis, Harold, Coleopt. Hefte, xii. p. 80, 1874[1].

Hab. Costa Rica [1].

12. **Chalcophana mexicana.**

Chalcophana mexicana, Baly[1], Trans. Ent. Soc. 1881, p. 499[1].

Hab. Mexico[1].

The typical specimen, which I have examined, is a male, and cannot be mistaken for any other, on account of the purplish-blue elytra, which have their outer margins narrowly rufous, but not their apex, as is the case with so many other species; the punctuation is close and fine, with occasional traces of double lines. Only a single specimen is contained in the collection of Mr. Baly.

13. **Chalcophana godmani.** (Tab. VII. fig. 10.)

Narrowly oblong, fulvous or rufous below; antennæ (their three basal joints excepted) and the apex of the tibiæ and tarsi black; thorax impunctate; elytra metallic green, their lateral margin and apex fulvous, strongly punctate-striate.

♀. Larger; elytra geminate punctate-striate, the sides with four abbreviated costæ.

Var. *a*. Light fulvous with a greenish gloss.

Var. *b*. Elytra with a transverse narrow fulvous band at the middle.

Length, ♂ 2 lines, ♀ 3–3½ lines.

♂. Head nearly impunctate, deeply foveolate between the eyes; antennæ two thirds the length of the body, very slender, black, the three basal joints rufous; thorax transversely convex, the anterior portion deflexed and the angles produced into a short tooth, surface very smooth, entirely impunctate, rufous or fulvous, very shining; scutellum fulvous; elytra distinctly narrowed towards the apex, longitudinally grooved within the humeral callus, and with a short transverse depression below the base, strongly and rather regularly punctate-striate, the striæ a little more distinctly geminate towards the side, but fainter and more distant towards the apex; the extreme lateral margin and the apex narrowly fulvous; lower half of the tibiæ and the tarsi black.

♀. Larger, elytra more finely and very distinctly geminate punctate-striate, each elytron with the following costæ—a very short one below the transverse depression, another very distinct one from the humeral callus to a little distance from the apex, running in a rather curved shape, and two others parallel with the second near the lateral margin, and of nearly the same length as the preceding one; outside this last costa is a double row of punctures, another deeply impressed punctured single line accompanying the lateral margin.

Hab. Mexico, La Parada (*Sallé*); Panama, Volcan de Chiriqui, 2000–3000 feet (*Champion*).

The present species may be distinguished from *C. hybrida* by the entirely impunctate thorax of the male, and the almost simply punctate-striate elytra, the rows of which are more distantly placed and more regular than in the last-named species, which shows more distinct traces of double lines. The female of *C. godmani* is more difficult to separate from that of *C. hybrida*; the punctuation in the former, however, is arranged in close double lines, the costæ are more highly raised, and the space between the second and third costa is wider and contains many more punctures: this latter character seems to be more constant than the others, as the specimens show a good deal of variation in regard to the sculpturing of the elytra. Many specimens have been lately received from Chiriqui, from which I have been able to determine the relationship of the sexes. The varieties are either entirely fulvous above, with a slight metallic-green gloss, or a

narrow fulvous band extends across the elytra, as in the case of *C. cincta*. The specimen figured is a female variety from La Parada, which I cannot distinguish from the specimens from Chiriqui, although the thorax is much more closely punctured.

14. Chalcophana hybrida.

Oblong, narrowed behind, rufous or fulvous; thorax distantly punctured; elytra metallic green, strongly geminate punctate-striate, their margin and apex fulvous; apex of the tibiæ and the tarsi black.

♀. Larger, the elytra more finely punctured; the sides with three more or less distinct costæ.

Length 2–3 lines.

Head with a few very fine punctures and a more or less distinctly impressed longitudinal groove; antennæ black, the first four joints fulvous; thorax transverse, the anterior angles produced into a short tooth; surface very remotely but distinctly punctured; elytra with a distinct transverse depression below the base, strongly and closely subgeminate punctate, the interstices not subrugose at the anterior portion, metallic green, the lateral margin and the apex narrowly fulvous.

Hab. GUATEMALA, Capetillo (*Champion*).

Again similarly coloured to *C. germari* and the allied species, but evidently a distinct one, as the following differences will suffice to show:—The present species, if the males are compared with those of *C. germari*, is of a more pointed shape posteriorly, narrower and less convex; the antennæ are more slender, and their terminal joints less robust and shortened; the thorax is more sparingly and less deeply punctured, and the elytra less coarsely punctate, the interstices smooth and not subrugose anteriorly. The female may be distinguished from that of *C. germari* by the shining and very sparingly punctured thorax, the more finely geminate punctate-striate elytra, and the costæ of the latter running in a curved line, and not in a straight one as in the former insect. It is absolutely necessary in the descriptions of these closely allied insects to mention the differences between the sexes, or, where both are not known, to indicate the sex before one. V. Harold has omitted this in several instances; and I am in these cases not sure with which of his species those described here are to be compared. The present species was received in abundance from Capetillo only.

15. Chalcophana obscura.

Ovate, short, obscure piceous or dark brown below; head and thorax brown or piceous, distinctly punctured; elytra dark violaceous blue, finely subgeminate punctate-striate.

Length 3 lines.

Head with a few fine punctures at the vertex and an obsolete depression between the eyes; clypeus triangular, distinctly limited behind by two smooth raised spaces; antennæ bluish black, the first three joints obscure piceous or brown; thorax not more than twice as broad as long, piceous or dark brown, its surface very irregularly covered with small and larger punctures; scutellum black; elytra somewhat irregularly geminate punctate-striate, the punctures much more finely impressed and more regularly arranged in double lines near the apex than at the base; underside and legs brown or piceous, with a more or less distinct purplish reflection. Female unknown.

Hab. MEXICO (*Boucard, coll. Jacoby*).

Of this species two specimens are contained in my collection, given to me by M. Boucard; although they evidently belong to the same species, the punctuation of the elytra is rather different in each, one specimen being much more distinctly geminate-punctate than the other, and having at the same time a well-marked depression at the base, which is almost entirely absent in the other specimen. The distinctly punctured thorax, and want of the elytral costæ, will separate the present insect from *C. violaceipennis*.

16. Chalcophana simplex.

Rufous; antennæ (the basal joints excepted), apex of tibiæ, and the tarsi black; thorax remotely punctured; elytra metallic green, their margin and apex rufous, closely punctate-striate.

♀. Larger, thorax transverse, thorax and elytra more strongly punctured, without costæ.

Length 3–3½ lines.

Head with a distinct cruciform depression between the eyes, almost impunctate; antennæ long and slender, black, the first three joints rufous; thorax with a few very distant punctures; elytra slightly narrowed behind, the apex pointed, with a short but deep transverse depression below the base; the shoulders rounded and not very prominent, surface rather finely punctate-striate, the punctuation stronger at the basal depression, and at the sides and near the apex arranged in widely apart single rows.

Hab. British Honduras, river Sarstoon (*Blancaneaux*).

Of this insect, which is very closely allied to *C. hybrida*, Jac., and *C. fraterna*, Har., a male and a female specimen are before me; but the following differences between the present species and the last named prevent me from considering them identical with the latter:—The thorax in *C. simplex*, if a male specimen is compared with that sex of *C. hybrida*, is, although transverse, less convex, and the anterior margin is produced in the middle, which is not the case in *C. hybrida*, in which insect the first four joints of the antennæ are rufous, instead of three; the elytra in *C. simplex* (♂) are closely punctate-striate, with traces here and there of double rows; in *C. hybrida* they are more distinctly geminate-punctate, and the intervals between the rows are greater; lastly, the female of the present species from the same locality is entirely without ribs or costæ, differing in that respect from the female of *C. hybrida*. With all these differences I cannot, however, quite conceal my doubt as to the specific value of *C. simplex*, as I have only two specimens for comparison. *C. fraterna* seems also very closely allied; but as v. Harold does not mention the sex, and gives the tarsi as entirely red, I cannot consider my species identical with his.

17. Chalcophana dissimilis.

Rufous below; apex of the tibiæ and the antennæ (their basal joints excepted) black; thorax finely punctured; elytra violaceous blue, finely geminate punctate-striate, their apex rufous.

Var. antennæ and legs black.

Length 3 lines.

♀. Head finely and closely punctured, rufous, with a more or less distinct fovea between the eyes; antennæ entirely black, or with the two or three basal joints more or less distinctly rufous; thorax narrow, transverse, the anterior angles mucronate, the sides rounded, surface closely and extremely finely punctured;

scutellum rufous; elytra dark violaceous blue, the apex only narrowly rufous, the sides with three or four more or less distinct costæ and a rather deep depression below the base; the interstices finely geminate punctate-striate, simply punctate-striate towards the apex.

Hab. GUATEMALA, Zapote, El Tumbador (*Champion*).

Of this species four female specimens were obtained by Mr. Champion. On account of the colour of the elytra the insect can only be compared to *C. wagneri*, from which it is distinguished by its narrower shape, the colour of its antennæ and legs, and the closely and finely punctured thorax.

18. **Chalcophana discolor.** (Tab. VI. fig. 25.)

Chalcophana discolor, Harold, Coleopt. Hefte, xii. 1874, p. 77[1].
Chalcophana costatipennis, Jacoby, P. Z. S. 1878, p. 144[2].

Hab. COSTA RICA[1 2], Cache (*Rogers*); NICARAGUA, Chontales (*Janson*, *Belt*); PANAMA (*Boucard*), Volcan de Chiriqui, 2000 to 3000 feet (*Champion*).

Since the publication of my species I have received sufficient material to come to the conclusion that the latter is identical with v. Harold's insect. The size is given by this author as nine millimetres; my insects vary from two to three lines only; specimens of such large size as v. Harold gives I have not seen. The species is entirely of reddish-brown colour; and the elytra are costate throughout, less distinctly so in the male than in the female; the thorax is nearly impunctate on the disk. The specimens from Chiriqui are partly almost black below, and the first four joints of the antennæ are rufous, instead of three joints as given by v. Harold; but in all other respects they agree with the description, which seems to me to be that of the female. Male specimens which I take to belong to this species are smaller; the head has a distinct elongate triangular depression between the eyes; and the punctuation of the elytra is, except at the middle, nearly simply punctate-striate, the sides have only one or two ill-defined costæ; and the interspaces there are coarsely and irregularly punctate.

19. **Chalcophana rufipennis.** (Tab. VIII. fig. 17.)

Chalcophana rufipennis, Jacoby, P. Z. S. 1878, p. 144[1].

Hab. COSTA RICA, Volcan de Irazu[1] (*Rogers*); PANAMA, Volcan de Chiriqui, 2000 to 3000 feet (*Champion*).

This very distinct species is at once separated from the two preceding ones by its black underside and the light flavous legs and antennæ; the elytra are more or less rufous and closely punctate-striate, with three lateral costæ. The male is unknown; but a single female specimen has lately been received from Chiriqui, which is much larger than the Costa-Rica insect, and differs in the colour of the antennæ and legs, which are fulvous instead of light flavous; but it agrees in all other respects.

XANTHONIA.

Xanthonia, Baly, Journ. of Entom. ii. p. 151 (1863).

The present genus is one of many, forming together a group of small pubescent species, the principal character of which is to be found in the absence of a distinct lateral thoracic margin and bifid claws. In connexion with these characters the present genus has a rather flattened thorax, which distinguishes it from that of the genus *Fidia*, in which the thorax is cylindrical. Chapuis, in his diagnosis of the genera of this group, gives the thighs in *Xanthonia* as unarmed, while Mr. Baly, who separated the genus, says that they are *sometimes* toothed. The genus is not altogether absent in the Old World, one species having been described as inhabiting Japan; the other three or four species are North-American.

1. **Xanthonia guatemalensis.** (Tab. VII. fig. 20.)

Oblong, subcylindrical; below piceous or black; antennæ, base of the thighs, and a ring at the apex of the tibiæ, fulvous; above obscure brownish fulvous or piceous, closely covered with yellowish pubescence; thorax minutely, elytra closely subpunctate-striate; anterior thighs toothed.

Length 2–3 lines.

Head very closely punctured, opaque, finely pubescent; clypeus transverse, a little more shining, finely rugose-punctate, its anterior margin bidentate; jaws black; antennæ of half the length of the body, the third, fourth, and fifth joints of equal length, the sixth and terminal joints shorter, fulvous, or the base of the joints piceous; thorax slightly broader than long, subcylindrical, with a shallow depression parallel with the anterior margin; surface rather flat, extremely closely punctured, and covered with yellowish hairs; scutellum subpentagonal, thickly covered with whitish pubescence; elytra obsoletely depressed below the base, much wider at the base than the thorax, more strongly punctured than the latter, the punctures arranged in subregular close striæ; entire surface pubescent, like the thorax of an indistinct dark fulvous or piceous colour, the pubescence thin but very closely and rather evenly distributed, of a yellowish-white colour; underside piceous; the base of the femora and the middle portion of the tibiæ fulvous; the former compressed, and the anterior ones armed with a distinct tooth; apex of the tibiæ distinctly dilated; tarsi piceous; claws bifid.

Hab. Mexico, Jalapa (*Höge*); Guatemala, near the city (*Salvin*), Cerro Zunil, Capetillo, Dueñas, Calderas, San Gerónimo, Volcan de Agua, 8500 to 10,500 feet, Panajachel (*Champion*).

In the compressed anterior femora and their tooth, the present species approaches the genus *Trichotheca* from India; but the much more transverse thorax and the differently-shaped antennæ prevent its being included in that genus. The elytra in this species are variable in colour, some showing indistinct patches of fulvous and yellowish tufts of hair, while others are more regularly pubescent and of a piceous colour, marbled here and there with small fulvous spots. The figure is taken from a specimen from Cerro Zunil.

2. **Xanthonia plagiata.**

Ovate, obscure piceous; base of the femora and the antennæ fulvous, the seventh and last two joints of the latter piceous; above obscure piceous, covered with grey pubescence; elytra with a triangular sutural

patch at the middle and several smaller ones near the base and apex denuded of hairs; anterior femora compressed and distinctly toothed.

Length 2 lines.

Hab. GUATEMALA, San Gerónimo (*Champion*).

I should consider this insect a variety of *X. guatemalensis*, but for the dozen specimens before me all showing the same differences, which are as follows:—the colour of the antennæ and the arrangement of the pubescence of the elytra, which is much denser and leaves bare patches, as given in the diagnosis; the general shape of the insect also is less broad and more tapering towards the apex, and the punctuation of the elytra finer than in *X. guatemalensis*; the sutural elytral patch is distinctly bordered behind by two small whitish tufts of hair well visible to the naked eye.

3. **Xanthonia nigrofasciata.**

Ovate, piceous below; antennæ black, the basal joint fulvous; above fulvous; thorax rugose-punctate, bifoveolate; elytra finely punctured and pubescent, fulvous, each elytron with a black longitudinal band, obsoletely and closely subtuberculate; thighs finely toothed.

Var. The elytral black band indistinct or entirely absent.

Length 1½ line.

Head punctured and coloured as in *X. tuberosa*; antennæ with the last five joints thickened and of nearly equal length; thorax distinctly widened at the middle, the sides subangulate at the middle when seen from above; surface with a distinct transverse depression near the anterior margin, and a small round fovea at each side, finely rugose-punctate and pubescent; elytra with the sides and the apex much deflexed, surface finely covered with yellow pubescence and suberect hairs, entire disk covered with indistinct tubercles, each elytron with a gradually widened black band from below the base to the apex; legs dark fulvous; femora with a short tooth.

Hab. GUATEMALA, Totonicapam (*Champion*).

Although this species is closely allied to the preceding one, the toothed femora, bifoveolate thorax, and closely tuberculate elytra will at once separate it.

4. **Xanthonia marmorata.** (Tab. IX. fig. 5.)

Ovate, piceous below; antennæ (their base excepted) and the apex of the femora black; above light brown, pubescent; thorax finely rugose-punctate; elytra finely punctate-striate, each elytron with about ten black spots.

Var. Entirely light fulvous.

Length 1 line.

Head broad, rugose punctate, closely covered with yellowish hairs; antennæ not reaching further than the base of the elytra, with the last five joints gradually but distinctly thickened; thorax subtransverse and flattened, the sides rounded and distinctly widened at the middle, surface with a shallow transverse depression, parallel with the anterior margin, very closely and finely rugose-punctate, and covered with very fine yellowish pubescence arranged in transverse lines, fulvous, the sides often piceous; scutellum subquadrate, dark fulvous; elytra much wider than the thorax, about three times as long, somewhat shining, the punctuation stronger than that of the thorax and arranged near the suture in subregular lines, the pubescence thin, suberect, and arranged partly in rows, the colour the same as the thorax, with three transverse rows of black spots (when visible), one at the base, consisting of three spots, one near the middle, with four obliquely placed spots, and three more spots near the apex.

Hab. MEXICO, Jalapa (*Höge*); GUATEMALA, San Gerónimo, Calderas, Cerro Zunil,

Zapote, Dueñas, Quezaltenango, Quiche Mountains, Volcan de Fuego (*Champion, Salvin*).

Of this little species great numbers have been received from the above localities. In the shape of its antennæ it deviates from the typical form described by Mr. Baly; but, all the other characters being present, I think it best to leave it in this genus. By far the greater number of specimens are of a light or darker uniform fulvous colour, others having the spots on the elytra obsolete, but in some very distinctly marked. Its minute size will distinguish this species from its allies.

5. **Xanthonia tuberosa.** (Tab. IX. fig. 4.)

Ovate, piceous below; above dark fulvous, closely covered with yellow pubescence; thorax finely, elytra irregularly punctured, the latter covered with numerous small black tuberosities.

Length 1 line.

Head closely rugose-punctate, with an indistinct central longitudinal groove, and covered with bright yellow hairs; antennæ of the same shape and length as in *X. marmorata*, the basal joints fulvous, terminal ones obscure piceous; thorax also resembling that of the last-named species, closely covered with yellow hairs; elytra slightly depressed below the base, irregularly and more strongly punctured than the thorax, and closely covered with long silky pubescence, the disk beset with numerous small black shining wart-like tuberosities; legs unarmed, fulvous or testaceous; apex of the femora and base of the tibiæ piceous.

Hab. Mexico, Jalapa (*Höge*).

Only three specimens of this very distinct species were obtained by Herr Höge.

FIDIA.

Fidia, Dejean, Cat. 3rd ed. p. 436; Baly, Journ. of Entom. ii. p. 153.

This genus, indicated by Dejean, was subsequently characterized by Mr. Baly, who gave as the type *F. lurida*, Dej. The species belonging to this genus are subcylindrical, pubescent (the pubescence being sometimes arranged in regular lines). The cylindrical not transverse thorax and unarmed thighs divide the present genus from *Xanthonia*; several North and Central American species are known.

1. **Fidia pedestris.** (Tab. VII. fig. 12.)

Fidia pedestris, Lefèv. Ann. Soc. Entom. France, 1877, p. 164[1].

Hab. Mexico, Oaxaca[1], Toxpam, Cordova, Cerro de Plumas (*Sallé, Höge*).

The colour of this species is a uniform chestnut-brown and shining, in spite of the bristly pubescence which covers it; the legs are bluish black. The type, from M. Sallé's collection, is figured here. Ten specimens were obtained by Herr Höge.

2. **Fidia spuria.** (Tab. VII. fig. 11.)

Fidia spuria, Lefèv. Ann. Soc. Ent. France, 1877, p. 165[1].

Hab. Mexico, Oaxaca[1], Juquila (*Boucard, coll. Sallé*).

The type is figured here; the species is distinguished from the preceding one by the entirely fulvous colour of the legs and body, the closer punctuation and pubescence of the elytra.

3. **Fidia humeralis.** (Tab. VII. fig. 13.)

Fidia humeralis, Lefèv. Ann. Soc. Ent. France, 1877, p. 165[1].

Hab. Mexico, Cuernavaca[1] (*Sallé*).

The figure represents the type from M. Sallé's collection.

4. **Fidia plagiata.** (Tab. VII. figg. 14, 15.)

Fidia plagiata, Lefèv. Ann. Soc. Ent. France, 1877, p. 165[1].

Hab. Mexico, Oaxaca[1] (*Sallé*).

In comparing the present species and the variety, both types of which are figured here, with the type of *F. humeralis*, I have strong doubts as to the specific value of *F. plagiata*, the only differences being the larger elytral red spot and the size.

5. **Fidia albovittata.** (Tab. VII. fig. 16.)

Fidia albovittata, Lefèv. Ann. Soc. Ent. France, 1877, p. 166[1].

Hab. Mexico[1], Tuxtla, Cordova (*Sallé*), Cerro de Plumas (*Höge*); British Honduras, river Hondo (*Blancaneaux*).

The Honduras specimens show no difference from the Mexican forms; and the species may easily be known by the four more or less abbreviated white hairy stripes of the elytra.

6. **Fidia sallæi.** (Tab. VII. fig. 17.)

Fidia sallæi, Lefèv. Ann. Soc. Ent. France, 1877, p. 166[1].

Hab. Mexico, Guanajuato[1] (*Dugès, coll. Sallé*).

This species, the type of which is figured, is easily separated from *F. albovittata* by the regular white hairy lines on the elytra, and their shining rugose interspaces, as well as the rugosely punctured thorax. A single specimen only is contained in M. Sallé's collection.

7. **Fidia guatemalensis.** (Tab. IX. fig. 6.)

Fidia guatemalensis, Jacoby, P. Z. S. 1879, p. 778.

Hab. Guatemala, Dueñas, Capetillo (*Champion*); British Honduras, Belize (*Blancaneaux*).

Only a single specimen was obtained by M. Blancaneaux, numerous others by Mr. Champion. The species is easily known by its metallic bronze colour, and the rugosely punctured elytra and raised interstices of the latter.

8. Fidia lateralis.

Oblong, black below; above, and the antennæ and legs, fulvous, shining; thorax rugose-punctate; elytra punctate-striate, with a lateral longitudinal black band.

Length $1\frac{3}{4}$ line.

Head finely but very closely rugose-punctate, obscure fulvous; clypeus light fulvous, square-shaped, rugose-punctate; antennæ nearly as long as half the body, fulvous, last five joints much thickened, piceous; thorax cylindrical, dark fulvous, very closely rugose-punctate, sparingly pubescent; scutellum broadly ovate, piceous; elytra transversely depressed below the base, very closely punctate-striate, the puncturing distinct to the apex, fulvous, shining, the sides occupied by a longitudinal black band from the shoulder to nearly the apex; underside black, legs and tarsi fulvous.

Hab. Mexico, Orizaba (*Sallé*).

The only species to which the present one, of which a single specimen is contained in M. Sallé's collection, can be compared, is *F. pedestris*, from which it differs sufficiently in the black underside, the closely punctured thorax, and the black elytral stripe.

9. Fidia unistriata.

Oblong, black, shining; antennæ piceous, their base fulvous; thorax very distantly punctured, finely pubescent; elytra deeply depressed below the base, finely punctate-striate, the suture and a stripe from the shoulder to the apex covered with fine white hairs.

Length 2-$2\frac{1}{2}$ lines.

Hab. Guatemala, San Gerónimo, La Tinta, Chacoj (*Champion*).

At first sight this species seems identical with *F. albovittata*, which it resembles closely; but as all the specimens from Guatemala show the same distinctive characters, I must consider them to represent a distinct form, which may be separated from *F. albovittata* as follows:—The insect shows a much more shining black upper surface; the antennæ, instead of being entirely fulvous, have the base only of that colour; the thorax is more remotely punctured and entirely devoid of the central white line; the elytra, instead of having four pubescent stripes, have only a lateral stripe besides the sutural one. These characters are constant in all the specimens before me.

10. Fidia atra.

Subcylindrical, convex; black, closely covered with greyish-white pubescence.

Length 2 lines.

Head closely punctured, pubescent; antennæ half the length of the body, black, the third and fourth joints of equal length, the last five joints distinctly thickened; thorax cylindrical, widened at the middle, punctured and pubescent like the head; scutellum subtriangular, its apex obtusely rounded, thickly covered with white hairs; elytra with a circular depression below the base, obsoletely and closely punctate-striate, the interstices also minutely punctured, closely covered with rather long whitish hairs; underside, legs, and tarsi black.

Hab. Mexico, Oaxaca (*Höge*).

Of this very distinct species, which is easily known by its entirely black colour, only a single specimen was obtained by Herr Höge.

HABROPHORA.

Habrophora, Erichson, Arch. f. Naturg. 1847, p. 163.

Three species, from Peru and Colombia respectively, have up to the present time been described as belonging to this genus, which is distinguished by small, finely pubescent, and rather delicate forms, having somewhat the appearance of species belonging to the Galerucidæ. The deeply emarginate eyes is the principal character of *Habrophora*, of which one species has been received from Central America:—

1. Habrophora maculipennis.

Subelongate, fulvous below; joints seventh, eighth, and the two terminal ones of the antennæ piceous; above obscure fulvous, finely pubescent; elytra with longitudinal and transverse fuscous markings, more or less distinct.

Length 1½–2 lines.

Head extremely finely pubescent, not visibly punctured; clypeus not separated from the face; antennæ slender and filiform, of more than half the length of the body; thorax pubescent like the head, its posterior margin sinuate at each side, obscure fulvous or fuscous, or the sides of the latter colour only; elytra subparallel in the male, more convex and slightly widened in the female, covered with yellowish-grey fine hairs, very finely punctate-striate, the interstices partly denuded of hair, and in the shape of fuscous lines, of which about six extend from the base to the middle of each elytron, behind which a transverse zigzag band is placed; three other broader longitudinal bands are situated towards the apex; legs and underside light fulvous, also finely pubescent.

Hab. BRITISH HONDURAS, river Hondo (*Blancaneaux*); GUATEMALA, Cubilguitz, El Reposo, San Isidro (*Champion*); NICARAGUA, Chontales (*Janson*); PANAMA, Volcan de Chiriqui (*Champion*).

Of this species about twenty specimens have been obtained, which vary much in size, and also in coloration, the elytral markings being sometimes almost entirely obsolete; the antennæ, too, are either entirely testaceous or have the seventh, eighth, and apical joints piceous. *H. varia*, Erichs., seems to be a closely-allied form, but is described as being black below, and differing in the markings of the elytra, as well as in the colour of its legs.

METACHROMA.

Metachroma, Leconte, Proc. Acad. Philad. ix. p. 85 (1858).

Up to the present time no species belonging to this genus have been described from Central America, the only "habitat" recorded being North America and Cuba. The genus is distinguished rather easily by the emargination or notch of the four hinder tibiæ in connexion with the bifid claws; the concave anterior thoracic episternum preventing them being confounded with the Typophorinæ, which agree in the former characters. Chapuis has united this genus with *Rhyparida* of Baly, which certainly bears a great resemblance to it; but this latter genus (as Mr. Baly has pointed out) has the second joint of the antennæ always much shorter than the third one, while in

Metachroma these joints are quite or nearly equal; moreover the genus *Rhyparida* seems to be entirely restricted to the Old World. In the shape of the species of *Metachroma* much variation seems to exist, which is very striking, as will be seen by comparing *M. quercata*, Fab., with those described here; but the presence of the typical characters forbid the erection of a new genus for them.

1. **Metachroma variabilis.** (Tab. IX. fig. 7.)

Oblong, convex; piceous or fulvous; head and thorax impunctate; elytra depressed below the base, deeply punctate-striate, their apex nearly impunctate.

Var. *a*. Above piceous, the elytral margins fulvous.

Var. *b*. Entirely piceous.

Length 2–2½ lines.

Front of the head swollen, impunctate, except at the extreme base, shining; clypeus square-shaped, distinctly separated from the face by a transverse groove, closely and finely punctured, its anterior margin deeply concave and bidentate; labrum fulvous, jaws black; antennæ half the length of the body, fulvous, the seventh and the terminal joint piceous; thorax about one half broader than long, the sides much rounded and constricted at the base and apex, anterior angles mucronate, surface nearly impunctate or extremely finely punctured only when seen under a strong lens; scutellum broader than long; elytra very deeply and regularly punctate-striate, the first five rows (not counting the short sutural one) placed at regular distances from each other, the following rows much more closely approached, the apical region almost entirely impunctate, and the suture accompanied by a deeply impressed line; underside piceous; legs fulvous, the last two pairs of tibiæ deeply notched near the apex.

Hab. BRITISH HONDURAS, river Hondo (*Blancaneaux*); GUATEMALA, Zapote, Dueñas, La Tinta, Capetillo, Mirandilla, Pantaleon (*Champion*).

The colour of this species is very variable, either fulvous or piceous predominating. The figured specimen from Zapote is of an intermediate character, the fulvous elytra being spotted near the base with black. Numerous specimens were obtained in various parts of Guatemala.

2. **Metachroma regularis.**

Oblong, obscure piceous; above dark fulvous; last seven joints of the antennæ black; thorax extremely finely punctured; elytra regularly punctate-striate.

Length 3 lines.

Head with a few fine punctures at the vertex; eyes very prominent, black; clypeus square-shaped, its lower margin deeply concave, surface finely rugose-punctate; antennæ slender, more than half the length of the body, the first four joints fulvous, the rest black; thorax of the same shape as in *M. variabilis*, the sides still more rounded, with a narrow reflexed margin, surface closely and very finely punctured; elytra with about ten rows of deeply and regularly punctured striæ, the interstices smooth and shining, the punctures distinct to the apex, but much finer; underside obscure piceous, the abdominal segments generally fulvous at their apex; hinder tibiæ deeply notched.

Hab. MEXICO, Playa Vicente (*Höge*).

The larger size and finely punctured thorax, as well as the punctuation of the elytra, which is visible to the apex, separate this species from the preceding one. The upperside is generally of a shining fulvous colour; but the elytra in two specimens have a broad piceous patch. About a dozen specimens were obtained by Herr Höge.

3. **Metachroma convexa.**

Ovate, convex, fulvous or piceous below; thorax fulvous, impunctate; elytra testaceous, punctate-striate, the striæ visible to the apex; legs testaceous.

Length $2\frac{1}{2}$ lines.

Head very minutely punctured at the vertex; the eyes deeply grooved in front of their inner margin; clypeus nearly twice as broad as long, finely and closely punctured, the anterior margin concave emarginate, obliquely cut at each side; labrum and jaws fulvous; antennæ half the length of the body in the male, shorter in the female, the first five joints fulvous, the rest piceous; thorax transversely convex, slightly widened at the middle, the anterior angles produced into a very short tooth, surface impunctate, shining fulvous; scutellum crescent-shaped; elytra convex, not more than twice and a half as long as the thorax, narrowed towards the apex, testaceous, each elytron with ten rows of moderately deep punctures, which extend to the apex but are much more finely impressed at the latter part; legs rather short, testaceous.

Hab. NICARAGUA, Chontales (*Janson*).

Only two specimens of this species were obtained by Janson. They differ from *M. variabilis* in the shape of their elytra, which are more convex, shorter, and more narrowed towards the apex, the punctuation at the same time extending to the end; the sides of the thorax are also less rounded, and the legs less robust and shorter.

4. **Metachroma minuta.**

Light fulvous; antennæ and legs testaceous; thorax finely and closely punctured; elytra finely punctate-striate, their apex impunctate.

Length 1 line.

Head very minutely punctured; clypeus distinctly broader than long, remotely and distinctly punctate; antennæ slender, entirely testaceous; thorax nearly three times as broad as long, the sides greatly widened at the middle and rounded, surface closely covered with minute punctures; elytra with a short depression below the base, finely but distinctly punctate-striate anteriorly, much more finely towards the apex, the latter entirely impunctate; below and the legs light fulvous.

Hab. BRITISH HONDURAS, Belize (*Blancaneaux*).

5. **Metachroma mexicana.** (Tab. IX. fig. 11.)

Ovate, piceous or fulvous below; above testaceous; thorax impunctate, with a black spot on the disk; elytra depressed below the base, striate-punctate in the depression only, rest impunctate; each elytron with a short black streak at the middle of the disk.

Var. Thorax and elytra without spots.

Length $1\frac{3}{4}$–2 lines.

Head rather flat, very finely rugose near the clypeus, the latter separated from the face by a semicircular groove; antennæ half the length of the body, fulvous, the terminal joints more or less distinctly piceous; thorax transverse, the sides much rounded and widened at the middle; the anterior portion rather deflexed, surface entirely impunctate, with a V-shaped black spot at the middle of the disk; scutellum semicircular, black; elytra with a distinct transverse depression below the base, the latter somewhat thickened, and longitudinally grooved within the humeral callus, distinctly punctate-striate within the depression only, the other parts impunctate, the suture and a short longitudinal streak below the middle piceous or black. Underside either fulvous or the sides of the breast and the abdomen black; legs robust, the posterior femora with a very minute tooth; knees and apex of the tibiæ piceous.

Hab. MEXICO, Guanajuato (*Dugès, coll. Sallé*), Silao (*Sallé*).

The impunctate thorax and latter portion of the elytra form the principal marks of

distinction in this species, of which a spotted specimen from Silao is figured; others are entirely light fulvous, but agree in all other respects.

6. **Metachroma guatemalensis.**

Ovate, entirely light fulvous; thorax extremely finely punctured; elytra with a deep but short basal depression, the latter punctate-striate, rest of the elytra impunctate.

Length 2 lines.

Head impunctate; clypeus triangular and distinctly separated from the face, its surface finely punctured; antennæ less than half the length of the body, piceous, the three basal joints testaceous; thorax transverse, its sides much rounded and produced before the middle, from there to the base obliquely cut; surface closely covered with very fine punctures; elytra almost entirely impunctate, with only a few punctures within the depression, which is placed more towards the lateral margin than in *M. mexicana*. Underside and legs entirely fulvous; prosternum rugose-punctate.

Hab. GUATEMALA, Cahabon (*Champion*).

Although closely allied to the preceding species, the present one shows sufficient distinctive characters to justify its separation. The punctuation and shape of the thorax, as well as that of the clypeus, are quite distinct from those of *M. mexicana*.

EUMOLPUS.

Eumolpus, Weber, Obs. Ent. 1801, i. p. 28.

The large and handsome species comprised in this genus seem to be more subject to variation as to size, sculpturing, and colour than any other genus of the present family; and, except in one or two instances, the determination of the species, in spite of a monograph by Mr. Baly published in 1877, is an almost hopeless task. That author has often taken as a guide the telum or male organ, the characters of the females, which seem to be the commoner of the sexes, being still obscure and unsatisfactory; while an examination of Mr. Baly's types seems to show that not too much reliance can be placed on the shape of the penis, which I think will sometimes be found to vary like other parts. It seems, however, that only two species are at present known to inhabit Central America; and the determination of these two, at all events, is not difficult, since their antennæ are totally different. Chapuis, in his 'Genera des Coléoptères,' errs when he includes *Eumolpus* in his first section, or those Eumolpidæ which have the anterior thoracic episternum concave; in the genus *Eumolpus* this margin is more or less distinctly convex towards the middle.

1. **Eumolpus surinamensis.** (Tab. IX. figg. 14, 16.)

Eumolpus surinamensis, Fabr. Syst. Ent. p. 96[1]; Oliv. Ent. vi. p. 898[2]; Baly, Trans. Ent. Soc. 1877, i. p. 49[3].

Elongate-ovate, narrowed behind, dark green or violaceous blue; head with a fine central longitudinal groove, rather closely and finely punctured; clypeus separated from the face by a fine transverse groove, and laterally by an oblique finely impressed line at each side; antennæ black, the first six joints metallic blue or green, third joint a little longer than the fourth, the last five joints dilated and compressed; thorax

about once and a half as broad as long, very finely and closely punctured; elytra slightly narrowed below the base when viewed from above, distinctly narrowed behind, much more strongly punctured than the thorax, the punctuation also very close, somewhat rugose near the sides; prosternum longer than broad, much widened behind.

Var. Much larger, brilliant metallic green, the elytra less strongly and more irregularly punctured, the interstices everywhere aciculate or scratched.

Hab. MEXICO [3], Jalapa, Almolonga, Mirador, Panistlahuca, Vera Cruz, Cuernavaca (*Sallé*, *Höge*); GUATEMALA, Lanquin (*Champion*); NICARAGUA, Chontales (*Belt*, *Janson*); PANAMA (*Boucard*).—GUIANA [1]; AMAZONS [3]; BRAZIL [3].

I have given a renewed description here of this species from the numerous specimens before me, most of which agree with those in the collection of Mr. Baly. Two specimens from Panama, of which one is figured here, vary in being nearly twice the size of the Mexican specimens, and have the elytra aciculate between the punctures; in other respects they agree with the rest. The species is distributed throughout the greater part of South America.

2. **Eumolpus speciosus.** (Tab. IX. fig. 15.)

Eumolpus speciosus, Baly, Trans. Ent. Soc. 1877, p. 52 [1].
Eumolpus mexicanus, Sturm, Cat. 1843, p. 296.
Eumolpus höpfneri, Dej. Cat. 3rd ed. p. 437.

Hab. MEXICO (*Sturm*, *coll. Sallé*).—BRAZIL [1].

The only specimen from Mexico before me is from Sturm's collection, and has his ticket labelled "*E. mexicanus*" attached to it; the species proves to be identical with Mr. Baly's type, who described it under the name of *E. speciosus*. From *E. surinamensis* the present one is easily distinguished by the long filiform antennæ (which in other groups would have been thought sufficient for the erection of another genus), the strongly and very closely punctured thorax and elytra, and the nearly square prosternum.

In addition to these important differences, I find that the claws can scarcely be called bifid, the inner division being very obscure, and so closely attached to the outer part that the claws would be better called appendiculate.

TYMNES.

Tymnes, Chapuis, Genera des Coléopt. 1874, x. p. 310.

This genus was founded by Chapuis upon a species from North America, of elongate shape, resembling the genus *Edusa* of Australia in its general appearance; but it is devoid of the lateral elytral rugosities peculiar to the Australian genus. In *Tymnes* the anterior margin of the thoracic episternum is convex; and the genus consequently belongs to the second section of Chapuis's arrangement, where he has included it in the Edusinæ; the latter, however, form a special group, distinguished by their elytral rugosities, which, as already remarked, are absent in the present genus. I refer the

only Central-American species before me to Chapuis's type, although with some doubt, as only a short diagnosis is given by that author:

1. **Tymnes verticalis.** (Tab. IX. fig. 19.)

Tymnes verticalis, Chap. Gen. des Coléopt. x. p. 311, note 1 [1].

Hab. North America [1].—Mexico, Playa Vicente, Jalapa (*Höge*).

The three specimens obtained by Herr Höge, of which one from Jalapa is figured here, show some variation in shape and punctuation, which may be attributed to sexual differences. In one of them the underside is piceous, while the femora and upper parts are of a dark æneous colour; antennæ, tibiæ, and tarsi are fulvous; the head is closely and strongly punctured, with an elevated short ridge at each side near the base; the thorax is of transverse shape with rounded sides, the anterior angles being much deflexed and acutely pointed, the surface is punctured like the head, but less closely; the elytra are geminate punctate-striate near the suture, irregularly punctured at the sides; in the other specimens the thorax is less transverse, the elytra less distinctly geminate punctate, and the underside and legs are dark fulvous.

MYOCHROUS.

Myochrous, Erichs. Archiv f. Naturg. 1847, i. p. 164.

About a dozen species from North and South America constitute the genus *Myochrous*, which may be known by the scale-like pubescence covering the upper surface, and by the dentate lateral margin of the thorax in connexion with the convex anterior margin of the thoracic episternum. One species only, up to the present time, has been described from Mexico.

1. **Myochrous sallæi.** (Tab. VII. fig. 19.)

Myochrous sallæi, Baly, Trans. Ent. Soc. 1865, ser. 3, p. 335 [1].

Hab. Mexico [1], Oaxaca, Playa Vicente (*Sallé*).

This is a species of narrow and elongate shape, covered above with very fine and closely arranged greyish-white pubescence, the legs and antennæ being of a fulvous colour.

A specimen from Playa Vicente is figured.

2. **Myochrous melancholicus.** (Tab. VII. fig. 18.)

Obscure æneous; the three basal joints of the antennæ obscure rufous; thorax as broad as long, sides three-dentate; elytra closely punctate-striate, covered with yellowish scales; anterior tibiæ with a triangular tooth near the apex.

Length 2½ lines.

Hab. Mexico, Cordova, Toxpam (*Sallé*), Playa Vicente (*Höge*); Panama (*coll. Jacoby*).

Very closely allied to *M. denticollis*, Say, but differing in the shape of the thorax, which in that species is distinctly broader than long, while in the present one it is as broad as long; the teeth at the lateral margin are placed rather close.

The figure is taken from a Mexican specimen.

3. **Myochrous tibialis.** (Tab. IX. fig. 8.)

Elongate, obscure æneous; base of the antennæ and the tibiæ obscure rufous; thorax cylindrical, as long as broad, three-dentate at the sides; elytra covered with yellowish scales; anterior tibiæ dentate at the apex.

Length $2\frac{1}{2}$–3 lines.

Head closely punctured and covered with yellowish scales; clypeus broader than long, its anterior margin concave; labrum obscure fulvous; antennæ distinctly longer than the thorax, the first six joints fulvous, the rest obscure piceous and slightly thickened, terminal joint elongate; thorax as broad as long in the female, a little narrower and more cylindrical in the male; the sides distinctly three-dentate, and obliquely cut from the last tooth to the base; surface rugose-punctate, covered (especially near the sides and at the middle) with yellow scales; scutellum black, without hairs, and with a distinct fovea at the base; elytra closely and distinctly punctate-striate, the interstices (especially near the sides) finely transversely rugose, covered like the thorax, but not very closely, with scales. Underside obscure æneous or cupreous, punctured only at the abdominal segments; the legs impunctate, and covered, like the rest of the underside, with whitish hairs; tibiæ and tarsi rufous, the anterior pair of the former curved, and with a short tooth near the apex.

Hab. BRITISH HONDURAS, Belize, river Hondo (*Blancaneaux*); GUATEMALA, Panzos, Cubilguitz, Lanquin (*Champion*).

Although closely allied to *M. denticollis*, I believe the present species, of which numerous specimens were obtained at Panzos, to be a distinct one. The thorax is not broader than long, as is the case with *N. denticollis*, and is more rugosely punctured, while the scales covering the upper parts are not grey, but yellow. *M. longulus*, Lec., is described with the thorax longer than broad and sparingly punctured.

A Honduras specimen is figured.

4. **Myochrous femoralis.**

Oblong, subdepressed, æneous; base of the antennæ and the tibiæ fulvous; thorax slightly broader than long, three-dentate at the sides; elytra regularly punctate-striate, thinly covered with yellowish scales; anterior tibiæ toothed near the apex; posterior femora dilated into a triangular tooth.

Length $2\frac{1}{4}$ lines.

Hab. BRITISH HONDURAS, river Sarstoon (*Blancaneaux*).

A single specimen (and, as it seems, rather rubbed) was obtained by M. Blancaneaux, which differs from any of its allies by the dilated subdentate posterior femora. The antennæ are distinctly longer than the thorax; the latter is rather finely punctured; the elytra show a shallow transverse depression below the base, and are very regularly punctate-striate, without the transverse rugosities seen in *M. tibialis*.

5. Myochrous albovillosus.

Ovate, subcylindrical, narrowed behind; black, thickly covered with white pubescence; tibiæ obscure rufous; sides of the thorax without teeth; elytra obscure æneous, finely punctate-striate, closely covered with whitish scales, each elytron with about seven white thickly-scaled spots.

Length 1 line.

Antennæ not longer than the thorax, obscure piceous; thorax cylindrical, about as broad as long; the sides entire, finely serrate; upper surface closely covered with yellowish and white scales, the latter forming a narrow central and two broader lateral longitudinal bands; scutellum small, triangular; elytra convex and distinctly narrowed posteriorly, covered with scales like the thorax, the white ones forming about seven more or less distinct spots, of which two, more plainly marked, are situated behind the middle in a transverse line; tibiæ straight, unarmed.

Hab. Mexico (*Pilate, coll. Baly, coll. Jacoby*).

Of this minute but very distinct species I find a specimen contained in the collection of Mr. Baly; another is in my own.

GLYPTOSCELIS.

Glyptoscelis, Chevrolat, Dej. Cat. 3rd ed. p. 438; Leconte, Proc. Acad. Phil. 1859, p. 81.

Glyptoscelis may be at once distinguished from *Myochrous*, with which it has the general appearance and its pubescence in common, by the bifid claws and the absence of the teeth at the sides of the thorax, this latter character being, however, sometimes absent also in *Myochrous*. No species of *Glyptoscelis* has, up till now, been described from Central America, North and South America having been the only recorded localities. Three species from the former country have now come to my knowledge.

1. Glyptoscelis chontalensis.

Elongate, parallel, subcylindrical, piceous below; antennæ and legs obscure fulvous; above dark æneous, covered with long white pubescence; thorax with a central ridge; elytra finely and irregularly punctured.

Length 4 lines.

Head broader than long, finely and closely punctured, covered with long white hairs; eyes emarginate in front of the antennæ, the latter extending to one third the length of the elytra, robust, fulvous; thorax transverse, the posterior margin very rounded and produced at the middle; sides much deflexed when viewed from above, and distinctly constricted near the base; surface finely and closely punctured, with a distinct central slightly raised ridge from the apex to the base, and covered, like the head, with long white pubescence, which is placed transversely at each side of the ridge; scutellum transverse, subquadrate; elytra moderately convex, the apex very acute and produced into sharp points; disk more strongly punctured than the thorax, metallic æneous, but covered everywhere with thin and long white hairs. Underside and legs thickly covered with white pubescence.

Hab. Nicaragua, Chontales (*Belt*).

The æneous colour of the upper surface, in connexion with the central ridge of the thorax, separates this species (of which two specimens were obtained by Belt) from several of its allies, otherwise closely allied to it.

2. Glyptoscelis albicans. (Tab. VII. fig. 4.)

Glyptoscelis albicans, Baly, Trans. Ent. Soc. 1865, p. 334.

Hab. Mexico (*Sturm, coll. Sallé*).

The single specimen contained in the collection of M. Sallé agrees perfectly with the typical insect in Mr. Baly's collection, except in one point, the claws being simple instead of bifid, a peculiarity of the present genus—a rather important difference, I admit, and one which, if connected with any other, would have induced me to erect another genus; but having only this one specimen before me, which differs in no other way whatever from Baly's species, I look upon the simple claws as an abnormal occurrence, which I believe is not without precedent in other families of Coleoptera, instances being known to occur in the Curculionidæ for example. In the present case there is certainly no trace of a bifid or appendiculated claw, even when seen under the microscope; and this shows us further how careful we ought to be in the erection of genera as well as of species when we take a single structural character as a guide, especially when founding it upon a single specimen.

The "habitat" of the present species was not known to its author; the insect, formerly in the collection of Sturm, is labelled Mexico.

3. Glyptoscelis mexicanus.

Elongate, subcylindrical, black; antennæ (their apical joints excepted) and legs obscure rufous; thorax and elytra opaque, alutaceous, very finely punctured, and covered with thin grey pubescence.

Length 3–3½ lines.

Head convex at the vertex, finely punctured and closely pubescent; antennæ with the last five joints distinctly thickened, black, rest of the joints rufous; thorax cylindrical, nearly as long as broad, the posterior margin only slightly produced at the middle, anterior margin greatly advanced in front, the sides slightly rounded and widened from the base to the apex, surface extremely finely punctured and granulate, thinly covered with yellowish-grey hairs; elytra subcylindrical, very slightly widened towards the apex, the latter rather acute but not produced into a point; surface punctured and pubescent like the thorax; legs obscure rufous, closely haired.

Hab. Mexico, Playa Vicente (*Sallé*).

Of this species, which may be known by its opaque black colour and the fine granular punctuation of its upper surface, I find two specimens contained in M. Sallé's collection.

TYPOPHORUS.

Typophorus, Erichson, Arch. f. Naturg. 1847, i. p. 163.

Several good characters unite in this genus to distinguish it from the rest of the Eumolpidæ—namely the general shape of the thorax and the elytra (the latter of which are distinctly wider at the base than the thorax), the groove round the inner orbit of the eyes, and the emarginate tibiæ, dentate femora, and bifid claws. The head is

always much swollen, and divided from the face by a deep triangular fovea. Some of the species seem to be most variable in point of colour and sculpture, and very difficult to separate. The genus seems entirely confined to the New World. Several species have been described from Central America.

1. **Typophorus humeralis.** (Tab. VII. figg. 22, 23.)

Typophorus humeralis, Baly, Ann. & Mag. Nat. Hist. 1859, ser. 3, iv. p. 128[1].
Var. *rufa*, Jacoby, P. Z. S. 1876, p. 815[2].

Hab. MEXICO, Cordova, Panistlahuca (*Sallé*); BRITISH HONDURAS, river Sarstoon (*Blancaneaux*); GUATEMALA[1] (*Sallé*), near the city (*Salvin*[2]), Cahabon, Senahu, San Joaquin, Capetillo, Zapote, Dueñas, Cerro Zunil, Las Mercedes (*Champion*); NICARAGUA, Chontales (*Janson*); COSTA RICA, Volcan de Irazu, Cache (*Rogers*).—PANAMA (*Boucard*), Volcan de Chiriqui (*Champion*).—COLOMBIA.

The type of this species in Mr. Baly's collection is represented by a single normally coloured specimen, to which he evidently added subsequently a specimen of uniform bluish-black colour, and devoid of the red basal spot. The very numerous specimens which have been received from the above localities prove to me that but little reliance can be placed on colour in these insects; but, at the same time, I am unable to come to a definite conclusion whether all the different forms before me should be regarded as merely local varieties of one species or not: I have, however, preferred the former. The type is of a greenish-black colour, with a square humeral spot not reaching the sutural margin; the elytra have a deep basal depression and a short oblique costa below the shoulder (♀), and are strongly punctate-striate in the depression only, the rest of the elytra being finely punctured. All these characters are present in the specimens before me from the different localities, with the exception of the colour, which varies greatly. Normal specimens are mostly from Guatemala, as well as the rufous variety described by myself[2]; from the same locality purplish, greenish, and blue specimens without the shoulder-spot occur, while all those from Chiriqui are of a uniform metallic colour, either blue or blackish green; generally the first four joints of the antennæ are fulvous, but often the first six joints; and the punctuation of the elytra is also very variable. I have also specimens before me in which the red basal spot extends quite to the suture, resembling therefore *T. obliquus*, Baly, which species is probably only a variety of the present. From Chiriqui metallic-coloured as well as entirely rufous specimens are before me, scarcely two being exactly alike; and some specimens from Guatemala in M. Sallé's collection have the thorax rufous as well as the elytra: the former, when seen under a powerful lens, is finely punctured; and the latter are also minutely but sparingly punctate in the spaces between the striæ, the latter varying much in depth, in some specimens being almost obliterated behind the middle, while in others they are much stronger and visible to the apex; but intermediate degrees occur in numerous

specimens. It is therefore altogether impossible to fix the limits of these forms, as constant structural characters are absent. I may further add that the male is almost devoid of an elytral depression and entirely destitute of the oblique humeral costa.

2. **Typophorus viridicyanea.** (*T. sturmi*, Tab. VII. fig. 21.)

Paria viridicyanea, Crotch, Proc. Acad. Phil. 1873, p. 40 [1].
Typophorus sturmi, Lefèv. Ann. Soc. Ent. France, 1877, p. 317 [2].

Hab. North America [1].—Mexico [1], Orizaba [2]; Nicaragua, Chontales (*Janson*); Costa Rica, Volcan de Irazu (*Rogers*).

Specimens from Nicaragua, named by Crotch himself, which I have for comparison, prove the insect to belong to the present genus, with which I must identify M. Lefèvre's species, according to this author's description; the latter, as well as Crotch, gives Mexico as its locality. It is impossible to say whether the metallic blue colour and the finely punctured thorax of this species are attributable to specific difference or to local variation only, so many equally variable forms being before me from other localities.

3. **Typophorus chalceus.**

Typophorus chalceus, Lefèv. Ann. Soc. Ent. France, 1877, p. 317 [1].

Hab. Mexico [1], Jalapa, Cordova, Vera Cruz, Orizaba, Guanajuato, Tuxtla, Cosamaloapam, Oaxaca, Teapa, Tehuantepec, Cuernavaca (*Sallé*, *Höge*).

M. Lefèvre described the type of the present species from bronze-coloured specimens, in which the thorax is finely punctured, and the elytra distinctly punctate-striate to the apex. I have now, from the same localities, specimens of blue or greenish colour before me, which by their sculpturing I must refer to this species, while others again vary in their punctuation, shape, and size, so that it becomes almost impossible to fix their limit, constant characters seeming to be absent. Normal specimens are of a coppery colour, with a rather transversely shaped and finely punctured thorax, the elytra being very distinctly punctate-striate to the apex, and the antennæ having their first five or six joints fulvous.

4. **Typophorus paradoxus.**

Greenish æneous below, above subcupreous; first six joints of the antennæ fulvous; head and thorax finely punctured; elytra very strongly punctate-striate, the punctures distinct to the apex.
Length 2–3 lines.

Hab. British Honduras, river Sarstoon, river Hondo (*Blancaneaux*).

I am obliged to separate this species, on account of the closely and finely but distinctly punctured thorax and the deeply punctate-striate elytra, the punctuation of which is even visible to the naked eye. The male is very convex, and without an elytral depression, while the female is deeply depressed below the base, as usual, and has a

short oblique raised ridge below the shoulder. It is true that I have before me, from the same locality, specimens of the same colour; but in none of them is the punctuation of the elytra so strongly impressed, and that of the thorax so distinct and close, as in the present species, of which I have four specimens for comparison.

5. **Typophorus mexicanus.** (Tab. VII. fig. 24.)

Typophorus mexicanus, Jacoby, P. Z. S. 1876, p. 814[1].

Hab. MEXICO, Oaxaca, Guanajuato, Tuxtla (*Sallé*); GUATEMALA, near the city (*Salvin*[1]), Capetillo, Dueñas (*Champion*).

The red head and thorax, violaceous blue elytra, and the rather small size of the insect will easily distinguish it. A variety with a black head and thorax, the latter of which has only the anterior margin fulvous, was also received, in company with numerous normally coloured specimens, from Capetillo: of this variety a dozen specimens were obtained. Those from Capetillo vary somewhat from the Guatemalan type, being shorter and the elytra rather more strongly punctured; the latter is figured.

6. **Typophorus melanocephalus.**

Typophorus melanocephalus, Jacoby, P. Z. S. 1876, p. 814[1].

Hab. MEXICO[1], Puebla, Cuernavaca, Guanajuato (*Sallé*); GUATEMALA (*coll. Jacoby*).

The black colour and close punctuation of the head, in connexion with the deeply punctate-striate elytra, which are metallic blue, the thorax being fulvous, distinguish well the present species from others with similarly-coloured upper surfaces.

7. **Typophorus erythrocephalus.**

Black; the first four joints of the antennæ and the head and thorax rufous, the latter finely punctured; elytra metallic blue or green, finely punctate-striate, the punctuation nearly invisible towards the apex.

Length 2–2½ lines.

♂. Head extremely finely punctured when seen under a powerful lens, rufous; antennæ two thirds the length of the body, black, the first four joints rufous, the basal one stained with piceous above; thorax transverse, distinctly widened at the middle, rufous, surface very finely and rather irregularly punctured, the interstices somewhat finely rugose or uneven; scutellum very broad; elytra distinctly transversely depressed below the base, the punctures much deeper within this depression; the striæ distinct only at the basal portion, but nearly entirely absent below the middle. Underside and legs black, with a slight greenish tint; femora with a very minute tooth.

Hab. MEXICO, Guanajuato (*Dugès, coll. Sallé*).

Of this species, which differs in size and colour, as well as punctuation, from *T. mexicanus* and *T. melanocephalus*, one male and three female specimens are contained in M. Sallé's collection. The latter sex is a little larger, with the antennæ shorter and the punctuation of the elytra much stronger, although the apical portion is as smooth as in the male insect. The punctured and at the same time subrugose thorax is a good distinguishing character of the present species.

8. Typophorus cyanipennis.

Typophorus cyanipennis, Lefèv. Revue et Mag. de Zool. 1876, p. 308[1].

Hab. MEXICO, Puebla[1], Cordova, Cuernavaca, San Andres, Etla, Oaxaca, Jalapa (*Sallé, Höge*).

Closely allied to *T. mexicanus*, but always distinguished by the red legs; sometimes the tibiæ and knees are black; but the base of the femora remains constantly red.

I have examined about thirty specimens from the above localities.

9. Typophorus nigricollis.

Narrow, subcylindrical, black; four or five basal joints of the antennæ fulvous; thorax black, closely punctured on the disk; elytra dark violaceous blue, strongly punctate-striate, the striæ visible to the apex.

Length $1\frac{1}{2}$–2 lines.

Head impunctate, or with a few fine punctures at the vertex; antennæ two thirds the length of the body, the apical joints robust; thorax subcylindrical, black, closely and finely punctured, the base nearly impunctate; elytra cylindrical, more or less distinctly depressed below the base, very strongly punctate-striate, the punctures, although somewhat finer, yet very distinct at the apex. Underside, legs, and tarsi black, with a slight greenish tint.

Hab. MEXICO, Cuernavaca, Guanajuato (*Sallé*).

This is a rather small species, of almost cylindrical shape, which may be separated from its allies by the black and distinctly punctured thorax and the very strong and regular elytral striæ. The specimens from Guanajuato differ slightly in the more distant punctures of the elytra, but otherwise agree with the others.

10. Typophorus subbrunneus.

Subovate, black; the five basal joints of the antennæ, apex of the tibiæ, and tarsi light fulvous; elytra dark brown, with a metallic green gloss, finely punctate-striate, the apex nearly impunctate.

Var. Legs entirely fulvous.

Length 1–$1\frac{1}{4}$ line.

Head impunctate; antennæ not longer than half the length of the body, the first five joints fulvous, the rest black, the last six joints dilated; thorax narrowed from base to apex, more transverse in the female than in the male, black, entirely impunctate; elytra of a dark chestnut-brown, with a more or less strong metallic-green tint, very obsoletely depressed below the base, the latter distinctly punctate-striate, but the striæ disappearing below the middle; legs black, apex of all the tibiæ and the tarsi entirely light fulvous.

Hab. BRITISH HONDURAS, river Hondo (*Blancaneaux*); GUATEMALA, Cahabon, Chiacam, Zapote (*Champion*).

Of this small species numerous specimens were received from Honduras, but only three from Guatemala; closely allied forms seem to inhabit Colombia and the Brazils. The present species may be recognized by the impunctate thorax and the fulvous colour of the apex of the tibiæ and tarsi—one specimen, however, having the legs entirely of that colour.

11. Typophorus purulensis.

Ovate, bluish black; first four joints of the antennæ, the tibiæ, and tarsi testaceous; thorax impunctate; elytra finely punctate-striate, the striæ distinct to the apex.
Length 1 line.

Hab. GUATEMALA, Purula, Panima (*Champion*).

Closely allied to *T. subbrunneus*, but differing in the black upper surface, the entirely testaceous tibiæ, and the elytral punctuation, which, although finer posteriorly, is distinctly visible at the apex. *T. tibialis*, Lefèv., seems to be another closely allied form, but has the thorax closely punctured at the sides. The present species is smaller than *T. subbrunneus*, and entirely without the brown ground-colour of that insect.

A good many specimens were obtained by Mr. Champion at Purula, a single specimen only at Panima.

12. Typophorus variabilis.

Testaceous; thorax impunctate; elytra finely punctate-striate, the striæ obsolete behind the middle, testaceous; each elytron with an obscure spot near the scutellum and behind the middle; femora unarmed.
Var. *a*. Piceous below; thorax and the base and apex of the elytra black.
Var. *b*. Entirely black, with the exception of the antennæ and the legs.
Length 1 line.

Hab. GUATEMALA, San Juan (*Champion*); PANAMA, Volcan de Chiriqui, 2000–3000 feet (*Champion*).

One of the smallest species of the genus, and easily recognized. The antennæ are entirely testaceous, with the exception of the last joint, which is piceous; the second joint is more thickened than usual, and the last six joints are robust. The thorax, when seen from above, is much narrowed in front, and, owing to the sides being greatly deflexed, appears almost cylindrical. The fine punctures of the elytra are generally surrounded in the light-coloured specimens by a piceous ring, the general colour varying from testaceous to black.

Six specimens were obtained by Mr. Champion.

PARIA.

Paria, Leconte, Proc. Acad. Phil. 1858, ix. p. 86.

Paria is very closely allied to *Typophorus*, but may be distinguished from it by the generally less cylindrical thorax and the continuity of the epistome with the face, the former being always separated in *Typophorus* by a distinct transverse groove. The known species have been described as inhabitants of North America, and also of the eastern hemisphere. From Central America none have previously been made known.

1. **Paria vitticollis.** (Tab. IX. figg. 9, 10.)

Elongate, subcylindrical, light fulvous; thorax impunctate, with two central longitudinal black stripes; elytra finely punctate-striate; the suture, a lateral basal stripe, a spot at the shoulder, another below the base, and a narrow transverse stripe at the middle of each elytron black.

Var. The elytral stripe greatly widened at the suture.

Length 2 lines.

Head perpendicular, impunctate, the vertex with a short central longitudinal groove; the clypeus separated in front by a moderately well-defined transverse impressed line; labrum fulvous; apex of jaws piceous; antennæ more than half the length of the body, filiform, entirely fulvous; thorax subcylindrical, entirely impunctate, the base with a deeply impressed transverse groove; two narrow longitudinal vittæ are placed at each side near the middle of the disk, in some specimens not quite extending to the base; scutellum fulvous, margined with black; elytra broader than the thorax, elongate, very distinctly depressed below the base, finely punctate-striate, more deeply at the basal depression, but very obsolete towards the apex, the suture accompanied by a deeply impressed stria; each elytron with an oblique spot near the scutellum, a narrow stripe commencing at the shoulder and extending along the lateral margin to the middle, and a central transverse stripe, as well as the suture, black. Entire underside and the legs fulvous; prosternum rather elongate, scarcely constricted at the middle.

Hab. PANAMA, Volcan de Chiriqui, 2000–3000 feet (*Champion*).

This pretty little species resembles closely in general appearance and shape *P. vittaticollis*, Baly (unfortunately, also, in its specific name, M. Baly's species having been overlooked by me at the time the figure was drawn), but is quite distinct by the colour of the antennæ and the markings of the thorax and elytra. In the variety which is figured (fig. 10) the transverse elytral band widens into a triangular sutural patch; of this form one, of the others six specimens were obtained.

2. **Paria brunneus.**

Ovate, chestnut-brown; antennæ fulvous, seventh to tenth joints piceous; thorax impunctate; elytra without basal depression, rather strongly punctate-striate, the apex impunctate; a round spot at the shoulder and an elongate one below the middle black; legs piceous.

Var. Entirely brown, without spots.

Length 1–1½ line.

Head impunctate, with or without a short longitudinal groove; apex of the clypeus concave-emarginate; antennæ fulvous, the terminal five joints, with the exception of the last, piceous; thorax slightly transverse, the sides moderately deflexed, lateral margins nearly straight, surface impunctate; scutellum a little longer than broad; elytra very convex, without the basal depression, rather deeply and remotely punctate to about two thirds of their length, the apex impunctate; a round spot at the base, and an elongate one behind the middle, and placed near the suture, black. Underside and legs darker, the latter nearly piceous.

Hab. PANAMA, David (*Champion*).

The dark brown colour, that of the antennæ, and the absence of a basal depression at the elytra separate this species, of which two specimens have been obtained. The variety differs in the absence of the elytral spots and the uniform coloration of the upper and under sides.

3. **Paria nigritarsus.** (Tab. IX. fig. 12.)

Oblong-ovate, fulvous; antennæ (their three basal joints excepted) and tarsi black; thorax impunctate; elytra finely punctate-striate anteriorly, each elytron with two spots at the base, another behind the middle, and the suture black.

Length 2 lines.

Head entirely impunctate, orbital grooves deeply impressed and extending nearly as far as the base of the antennæ; the latter slender, filiform, black, with the exception of the first three joints, which are testaceous; thorax rather transverse, the sides very moderately deflexed, surface impunctate; scutellum fulvous, broadly ovate, the apex rounded; elytra convex, with a short transverse depression below the base, finely punctate-striate, the punctures scarcely visible below the middle; each elytron with a narrow spot at the shoulder, a larger one near the scutellum, and an equally large one in the middle black; underside and the legs fulvous; tarsi piceous or black.

Hab. GUATEMALA, Cubilguitz (*Champion*).

To be distinguished from *P. 6-notata*, Say, by the fine punctuation of its elytra and the black tarsi.

Ten specimens were obtained.

4. **Paria lævipennis.** (Tab. IX. fig. 13.)

Ovate, convex, fulvous; antennæ piceous, the three or four basal joints testaceous; thorax impunctate; elytra deeply transversely depressed below the base, punctured at the depression only, a small spot at the shoulder, an oblique short stripe at the base, and a spot in the middle of each elytron black.

Var. The oblique stripe thicker, and connected with the posterior spot.

Length 1–1½ line.

Head impunctate; antennæ about half the length of the body, the last five joints thickened; thorax subquadrate, rather convex, the sides somewhat rounded, surface impunctate, shining; scutellum broad, the sides rounded; elytra with a short but very deep depression below the base, with indications of punctured striæ within this depression, rest of the surface impunctate; a short piceous oblique stripe, more or less distinct, extends from the middle of the base towards the suture; a small spot is placed at the shoulder, and a more transversely shaped one in the middle, of each elytron. Underside and legs fulvous.

Hab. BRITISH HONDURAS, river Hondo (*Blancaneaux*); GUATEMALA, Cahabon, La Tinta (*Champion*).

This seems to be a rather variable species in regard to shape and elytral markings, some specimens being much more elongate than others, and varying greatly in the spots of the elytra, so that it is almost impossible to fix their limit. The figure, taken from a Honduras specimen, shows the elytral spots well defined; but these latter are often connected with each other so as to assume the shape of longitudinal bands of greater or smaller width. The punctuation of the elytra differs also somewhat; and the name of *P. lævipennis* is more appropriately applied to the type from Honduras, which shows no traces of punctures beyond the first third of the elytra.

5. **Paria tibialis.**

Oblong, obscure fulvous; terminal joint of the antennæ, a spot at the head, and the base of the femora and tibiæ piceous; thorax impunctate; elytra distinctly punctate-striate anteriorly, impunctate near the apex.

Length 1½ line.

Head impunctate; ocular grooves very narrow; clypeus finely punctured, its apex nearly straight; vertex of the head with a black longitudinal spot; antennæ with the basal three or four joints fulvous, the rest black; thorax rather transverse, and narrowed anteriorly; surface impunctate, with central black spot; scutellum broader than long, subpentagonal; elytra elongate, scarcely depressed below the base, distinctly and rather closely punctate-striate near the base and the suture; the apex impunctate, the punctures near the basal margin deeply impressed; surface of each elytron with a very indistinct spot near the base and below the middle; tibiæ fulvous, varied with piceous.

Hab. GUATEMALA, Panzos (*Champion*).

Of this species two specimens are before me, which I believe to be distinct from *P. lævipennis*, on account of their much more elongate shape and more distinct punctuation; they differ in coloration, but not in other respects, one specimen being almost piceous on its upper surface as well as its legs, the knees only of the latter being fulvous.

PHANÆTA.

Phanæta, Lefèvre, Mittheil. Münch. ent. Verein, 1878, p. 132.

The only known species of this genus was described by the author from a Colombian insect, the principal characters being the dentate lateral thoracic margin, and the broad truncate prosternum, in connexion with the convex anterior thoracic episternum. All these characters are well expressed in the insects from Guatemala which I refer to this genus; but the antennæ, which in M. Lefèvre's type are described as having the second joint slightly longer than the third, differ in the species before me, in which the third joint is distinctly longer than the second. Whether I am right or not in referring the insect in question to the present genus I am unable to say, not having seen the type.

1. Phanæta ruficollis.

Phanæta ruficollis, Lefèv. Mittheil. Münch. ent. Verein, 1878, p. 132[1].

Hab. GUATEMALA, Purula, San Juan, Sinanja, Tamahu, Cubilguitz (*Champion*); PANAMA, Volcan de Chiriqui, 2000–3000 feet (*Champion*).—COLOMBIA[1].

In every respect the insects obtained by Mr. Champion agree with the description given by M. Lefèvre. The thorax is rather closely and strongly punctured, as well as the elytra, which in the female show some distinct costæ near the base. The head and thorax are rufous; the elytra violaceous blue.

COLASPOIDES.

Colaspoides, Castelnau, Silb. Rev. 1833, i. p. 20.
Pleuraulaca, Chevrol. Dej. Cat. 2nd edit. p. 109.

Colaspoides is a genus principally known to inhabit the eastern hemisphere, nearly

thirty species being enumerated in Gemminger's and v. Harold's Catalogue, the species from the New World amounting to seven only at the time of publication; since then, however, many more have been described by M. Lefèvre from South, and two other species by myself from Central America. Mexico has not, up till now, furnished us with any species, no example being contained either in M. Sallé's or Herr Höge's collections; so that Guatemala seems to be the most northern limit of the genus. The latter may be known by its ovate, convex, and rather short shape, and the convex anterior thoracic episternum. M. Baly has remarked that the species from the Old World have generally punctate-striate, those from the New World more irregularly-punctured elytra, which I have also found to be generally the case.

1. **Colaspoides batesi.** (Tab. IX. fig. 17.)

Colaspoides batesi, Jacoby, P. Z. S. 1879, p. 779.

Hab. Costa Rica (*coll. Jacoby*).

The two specimens in my collection which I received from M. Boucard are of a bright metallic green colour, and of nearly the same shape and size as *C. unicolor*. The head and thorax are very finely and rather irregularly punctured, the interstices having a somewhat rugose appearance; the elytra are also much more closely and finely punctured than in *C. unicolor*.

2. **Colaspoides chiriquensis.**

Ovate, convex, metallic green below; antennæ testaceous, the terminal joint piceous; tibiæ and tarsi fulvous; above obscure metallic cupreous; head and thorax finely, elytra closely and more strongly punctured.

Length $2\frac{3}{4}$ lines.

Head rather flat, closely and finely punctured at the vertex; clypeus distinctly separated from the face, its apex concave-emarginate, its surface more strongly punctured than the head, and of a more aureous colour, the margins metallic green; labrum and jaws dark fulvous; maxillary palpi and the antennæ testaceous, the latter slender, filiform, and extending beyond the half of the elytra, their two apical joints obscure piceous; thorax nearly three times as broad as long, very convex, and of almost equal width, the sides evenly rounded and distinctly narrowed anteriorly, surface very finely and closely punctured; scutellum about as broad as long, finely punctured; elytra about one half longer than broad, slightly narrowed towards the apex, with a very obsolete depression below the base, very closely, evenly, and more strongly punctured than the thorax, of a dark cupreous colour; the suture towards the apex metallic green; prosternum a little broader than long, its base slightly concave, surface somewhat rugose; thighs unarmed.

Panama, Volcan de Chiriqui (*Champion*).

3. **Colaspoides unicolor.** (Tab. IX. fig. 18.)

Colaspoides unicolor, Jacoby, P. Z. S. 1879, p. 780.

Hab. Nicaragua, Chontales (*Janson*; *Belt*); Panama, Volcan de Chiriqui (*Champion*).

The original description gives the head as *deeply* punctured, which is a mistake; it ought to be distinctly but *finely* punctate. The species is of a uniform dark violaceous blue colour; but the labrum and the legs, especially the anterior ones, are more or less distinctly metallic green; the thorax is also very finely punctured, sometimes almost impunctate, at the disk; and the elytra, although very closely, are also rather finely punctate. The species (of which specimens showing no difference have been lately received from Chiriqui) seems very closely allied to *C. viridicornis*, Lef., from Colombia, but differs in the fine punctuation of the head and the uniformly fulvous basal joints of the antennæ.

4. Colaspoides quadriplagiatus.

Ovate, moderately convex, below black; antennæ and legs testaceous; thorax metallic green or æneous, closely punctured; elytra violaceous, a square-shaped spot at the shoulder and another at the apex of each elytron fulvous.

Length 1–1¼ line.

Head metallic green, deeply longitudinally grooved in the centre, strongly but not very closely punctured; clypeus triangular; antennæ entirely testaceous, about half the length of the body; thorax about three times as broad as long, the anterior margin distinctly sinuate behind the eyes and produced at the middle, posterior margin distinctly produced or widened; surface closely and rather strongly punctured; scutellum broadly ovate, minutely punctured; elytra rather regularly and closely punctate-striate at their anterior portion, the striæ towards the apex finer and much wider apart, dark violaceous blue, each elytron with a rather large generally square-shaped spot at the shoulder, and another rounded one near the apex, fulvous: these spots do not extend to the sutural margin. Legs and tarsi testaceous.

Hab. GUATEMALA, San Gerónimo, El Jicaro (*Champion*).

This little species, of which but four specimens were obtained, resembles somewhat in size and markings *C. dorsata*, Baly, from which it differs sufficiently in the arrangement of the elytral spots and the colour of the thorax.

5. Colaspoides marginatus.

Ovate, black; antennæ and legs light fulvous; head and thorax metallic green, finely punctured; elytra more strongly punctate-striate, black, the lateral margins metallic green.

Length 1 line.

Head with a distinct central longitudinal groove, remotely but distinctly punctured; clypeus triangular, separated from the face by finely impressed lateral grooves, strongly punctured; antennæ entirely fulvous, the last five joints distinctly thicker than the rest; thorax narrowly transverse, the sides moderately deflexed, lateral margins rounded and narrowed towards the apex, surface rather remotely and finely punctured; scutellum ovate, impunctate, metallic green; elytra slightly narrowed towards the apex, much more strongly punctured than the thorax, and the punctuation arranged in rather regular and close lines; the interstices near the lateral margins slightly costate; surface black, the extreme base and the lateral margin narrowly metallic green. Legs and tarsi fulvous; anterior thoracic episternum convex at the middle.

Hab. GUATEMALA, San Gerónimo (*Champion*).

Fam. CHRYSOMELIDÆ.

This great family, which is distributed over every part of the world, is also well represented in Central America—although it does not play quite such a prominent part as the Eumolpidæ, either in regard to species or individuals. The Catalogue of Gemminger and von Harold contains the names of about 130 Central-American species —the whole number of those from the New World amounting to about 700. Their classification has, up to the present time, been most ably pointed out by Chapuis in his 'Genera des Coléoptères,' whose arrangement I propose following here, merely dwelling upon the distinctive characters of each genus,—Stål's division, in his fine Monograph of American Chrysomelidæ, offering some occasion for remarks.

In regard to the name of the present family, I think it preferable to reserve it exclusively for those genera which fall under our present classification, commencing with *Colaspidema* and ending with the Australian genus *Paropsis*, instead of using the name Chrysomelidæ for the whole of the Phytophaga, as is done in Gemminger's Catalogue. Stål has given short diagnoses of many species in the Öfvers. Vet.-Ak. Förh., which are here simply referred to as " Diagnosis."

PHÆDON.

Phædon, Latreille, Cuv. Règn. Anim. 1829, v. p. 151.

Nearly forty species of this genus have been described, amongst which two only are known from Mexico; their colour is generally a dark blue or green, with occasional spots of another shade.

From nearly all parts of the world species of *Phædon* are known.

1. **Phædon cyanescens.** (Tab. IX. fig. 21.)

Phædon cyanescens, Stål, Öfvers. Vet.-Ak. Förh. 1860, p. 470; Monogr. Chrysom. Amer. p. 320[1].
Phædon janthinum, Sturm, Cat. 1843, p. 292[2].

Hab. Mexico[1 2], Cordova, Yolos, Guanajuato, Puebla, Toluca, Las Vigas, Jalapa (*Sallé*; *Höge*); Guatemala (*Sallé*), Capetillo, Dueñas, Ostuncalco, Quezaltenango (*Champion*); Costa Rica (*van Patten*).

The numerous specimens which are before me from the above localities show occasionally slight differences in shape and sculpture, but not to a degree which I should take for specific. Stål describes the head as smooth; but in a specimen named by that author, and contained in M. Baly's collection, I find the head finely punctured, in which it agrees with all the other specimens I have for comparison. The species is of an entirely dark violaceous or greenish colour; the thorax is finely and closely punctured; and the interstices of the punctate-striate elytra are smooth and impunctate; antennæ and legs black.

Stål gives the size of this insect as $8\frac{1}{2}$ millim., which is no doubt a misprint, as neither the specimen named by himself nor any of the others before me is more than 2 lines long, and most of them are only $1\frac{1}{2}$ line.

2. **Phædon cyanopterum.** (Tab. X. fig. 4.)

Phædon cyanopterum, Guér. Icon. Règne An. 1838, p. 303[1].
Phædon buquetti, Blanch. Hist. de Chili, 1851, p. 548[2].

Hab. Mexico (*Sturm, coll. Sallé*).—Chili[1 2].

Two specimens from Mexico contained in M. Sallé's collection do not show any differences from the Chilian forms, with which I must consider them identical.

3. **Phædon viride.**

Gastrophysa viridis, Melsh. Proc. Ac. Phil. iii. p. 175.
Chrysomela viridis, Rogers, Proc. Ac. Phil. 1856, p. 38; Suffrian, Stett. ent. Zeit. 1858, p. 394[3].

Hab. North America[1 2].—Mexico[3] (?).

4. **Phædon mexicanum.** (Tab. IX. fig. 20.)

Below black; basal joint of the antennæ, the legs, and last ventral segment obscure fulvous; head and thorax rufous, the disk of the latter piceous; elytra blackish blue, punctate-striate.
Length $1\frac{1}{2}$ line.
Head extremely finely punctured; the clypeus separated from the face by a distinct triangular groove; antennæ with the last four joints thickened and distinctly broader than long, black, the basal joint fulvous; palpi black; thorax with the sides very slightly rounded; surface extremely closely and slightly more strongly punctured than the head; elytra rather strongly punctate-striate, the rows towards the side rather close together, the interstices entirely smooth and impunctate but somewhat convex. Legs obscure fulvous; tarsi piceous.

Hab. Mexico, Vera Cruz (*Sallé*).

Whether this species is but a variety of *P. fuscipes*, from Colombia, I am unable to say. It differs from that species in the entirely fulvous underside of the thorax and the obsolete (scarcely perceptible) piceous disk of that part, as well as in the smooth elytral interstices.

PLAGIODERA.

Plagiodera, Redtenbacher, Fauna Austriaca, 1849, p. 553.

Plagiodera is a genus of rather peculiar appearance amongst the Chrysomelidæ, having often a shape more resembling that of the genus *Coccinella*, on account of the convex elytra and narrow crescent-shaped thorax. The antennæ always end in transverse joints, more or less forming a club; the prosternum is very narrow in the middle, the metasternum, however, very long (not the mesosternum, as Chapuis says, this part being very short indeed).

The genus is of wide geographical distribution, and contains more than seventy species, eleven being known, up to the present time, to inhabit Central America.

1. **Plagiodera punctigera.** (Tab. IX. fig. 22.)

Plagiodera punctigera, Stål, Monogr. Chrys. Amer. p. 298[1]; Diagn. Öfvers. Vet.-Ak. Förh. 1860, p. 466[2].

Hab. Mexico[1 2], Cordova, Playa Vicente (*Sallé, Höge*); Guatemala, Teleman, Chacoj, Purula (*Champion*).

The specimens received from Guatemala do not differ from the Mexican forms described by Stål. The species is easily recognized by the three elytral black spots, placed in a triangular position.

2. **Plagiodera semivittata.** (Tab. IX. fig. 23.)

Plagiodera semivittata, Stål, Diagn. 1860, p. 467; Monogr. Chrys. Amer. p. 304.

Hab. Mexico, Toxpam, Orizaba, Cordova, Jalapa (*Sallé, Höge*); Guatemala, Dueñas, San Gerónimo, Calderas, Sinanja (*Champion*).

Normal specimens of this species are fulvous above, with the thorax spotted as described by Stål, or without spots; the elytra have two isolated spots at the base and a curved triangular band from the middle to nearly the apex; the suture is either entirely black or this colour is interrupted in the middle. From Guatemala specimens have been received in which the elytral spots are dark green and larger and the ground-colour of a much darker shade, the punctuation being also more regularly striate, and the underside of an obscure piceous colour. In other respects they resemble the Mexican forms, of which one is figured.

3. **Plagiodera maculatella.** (Tab. IX. fig. 25.)

Plagiodera maculatella, Stål, Diagn. 1860, p. 467; Monogr. Chrys. Amer, p. 305.

Hab. Guatemala (*Sallé*).

Mr. Champion has not met with this species in Guatemala, and a single specimen only is contained in M. Sallé's collection.

4. **Plagiodera æneiventris.**

Plagiodera æneiventris, Stål, Diagn. 1860, p. 467; Monogr. Chrys. Amer. p. 305[1].

Hab. British Honduras, river Sarstoon (*Blancaneaux*); Guatemala, Capetillo, Dueñas, Zapote (*Champion*); Nicaragua, Chontales (*Janson*); Costa Rica[1].

From *P. maculatella* the present species differs in the marking of the elytra, which have always a sinuate transverse stripe at the middle instead of isolated spots; but their punctuation may serve as a better guide in the separation of the species in ques-

tion. In *P. æneiventris* the elytra, although rather closely punctured, still show traces of arrangement in rows, and there are spaces between the latter distinctly visible; in *P. maculatella*, however, the punctuation is very close and irregular, without any interstices.

Great numbers of the present insect have been received from Capetillo.

5. **Plagiodera congesta.** (Tab. IX. fig. 24.)

Plagiodera congesta, Stål, Diagn. 1860, p. 467; Monogr. Chrys. Amer. p. 305 [1].

Hab. MEXICO [1], Cordova, Toxpam, Jalapa (*Sallé*, *Höge*); GUATEMALA, Sinanja (*Champion*).

Only from one locality in Guatemala has this pretty little species been received. The figure, which represents a specimen from Cordova, will give a better idea of the elytral markings than any description.

6. **Plagiodera vitticollis.**

Subrotundate, convex, flavous; the terminal joints of the antennæ, two longitudinal bands of the thorax, the suture, and four spots of the elytra black.

Length 2 lines.

Head with a distinct central groove, impunctate; antennæ slightly longer than the thorax, transverse from the seventh joint, the five basal joints testaceous, their apex black; thorax narrow, of equal width, the sides straight, and narrowed towards the apex, surface closely and finely punctured, a small spot and two narrow stripes from the base to the apex at each side black; scutellum black; elytra closely punctate-striate, the suture, a spot at the shoulder, another near the scutellum, and two smaller and more obsolete spots near the middle of each elytron black. Underside flavous; sides of the breast, the margins of the abdominal segments, as well as the coxæ, knees, and tarsi black.

Hab. GUATEMALA, Capetillo, Zapote (*Champion*).

Five specimens of this distinct species were obtained in Guatemala.

7. **Plagiodera thymaloides.**

Plagiodera thymaloides, Stål, Diagn. 1860, p. 468; Monogr. Chrys. Amer. p. 311 [1].

Hab. MEXICO, Campeche, Tuxtla (*Sallé*) [1]; BRITISH HONDURAS, river Sarstoon (*Blancaneaux*); GUATEMALA, Calderas (*Champion*).

The type in the collection of Mr. Baly agrees very well with the few specimens from Mexico; but in those from the other localities the fulvous margin of the elytra is wanting, but just indicated in the only specimen from Guatemala. The species is fulvous below, as well as the head and thorax; the latter has an obscure æneous central spot; and the elytra are of the same obscure æneous colour. The Honduras specimens show, besides the uniformly coloured elytra, some slight differences in the punctuation of the latter, which is stronger, the interstices being at the same time somewhat rugose; but in general the specimens agree with the type, and, I believe, represent the species as a local variety.

8. Plagiodera uniformis.

Rotundate, convex, entirely testaceous; last six joints of the antennæ black; thorax closely punctured at the sides, remotely at the disk; elytra strongly punctate-striate.

Length 2 lines.

Head flat, without central groove; antennæ as long as the thorax, the first five joints testaceous, the rest black and transverse; thorax as broad at the base as the elytra, closely punctured at the sides, the disk with a few punctures only; scutellum testaceous; elytra rather convex from base to the middle, strongly punctate-striate, the rows more distantly placed near the suture than at the sides. Legs testaceous.

Hab. MEXICO (*Sallé, coll. Baly*); GUATEMALA, Chacoj, San Juan, Panima (*Champion*).

The uniform coloration and strong punctuation of this species form the principal distinguishing characters. Four specimens only were obtained by Mr. Champion; another, in the collection of Mr. Baly, is of a rather more ovate and less rounded shape, but does not differ in other respects.

9. Plagiodera atritarsis.

Plagiodera atritarsis, Stål, Monogr. Chrys. Amer. p. 298[1].

Hab. MEXICO, Oaxaca (*Sallé*); GUATEMALA, Zapote, Dueñas, San Gerónimo (*Champion, Sallé*).—VENEZUELA, Caracas[1].

As indicated above, the country of this species, as given by Stål, is Venezuela; in the collection of Mr. Baly the locality is given as Mexico and Guatemala, the specimen contained in it having been named by Stål himself, and agreeing perfectly with several before me from Guatemala &c. The species is of a light fulvous or testaceous colour, with the suture narrowly and the scutellum entirely black; the last six joints of the antennæ are black and transverse, and forming a club; the closely and finely punctured elytra show traces of smooth longitudinal striæ, which are impunctate. The underside is generally of the same colour as above; but several specimens from Guatemala are nearly entirely black below, in which respect the specimens seem almost identical with *P. cerea*, Stål, which may be only a variety of *P. atritarsis*.

10. Plagiodera unicolor.

Ovate, rather convex, subparallel, fulvous; last four joints of the antennæ black; thorax finely punctured; elytra punctate-striate near the suture, with two or three smooth longitudinal interspaces.

Length $3\frac{1}{2}$ lines.

Hab. MEXICO, Chiapas (*Sallé*).

Although the present species, of which I have a single example for comparison, is no doubt closely allied to *P. atritarsis*, I believe it to be distinct from the latter on account of the following differences:—The antennæ have the first seven joints of a fulvous colour, instead of five as in the other species; the thorax of the present one is not so narrowed in front, and the sides are more rounded, while they are nearly straight in *P. atritarsis*.

The scutellum is fulvous, as well as the entire underside, legs, and tarsi; but the latter have the apex of each joint piceous. In other respects the species is similar to the preceding one, of which it may possibly be only a variety.

11. **Plagiodera flosculosa.** (*P. æneiventris*, Tab. X. fig. 1.)

Plagiodera flosculosa, Stål, Diagn. 1860, p. 467; Monogr. Chrys. Amer. p. 306.

Hab. Mexico, Etla, Capulalpam, Jalapa, Playa Vicente (*Sallé*, *Höge*).

The locality of this species was not known to Stål; the specimens obtained by Herr Höge agree perfectly with the author's description and with a specimen in Mr. Baly's collection, also from Mexico. From *P. æneiventris*, which the present species resembles closely in the elytral markings, it may be separated by the crescent-shaped æneous band of the thorax and of the head. The spots at the elytra are also larger, and leave only narrow spaces of the ground-colour. In all the specimens before me the first five joints of the antennæ are testaceous; and in many of them the femora have a metallic spot at the base, or are entirely fulvous.

In the plate the name of the present species must be substituted instead of that of *P. æneiventris*.

12. **Plagiodera quadrimaculata.**

Plagiodera quadrimaculata, Jacoby, P. Z. S. 1880, p. 171.

Hab. Costa Rica, river Sucio (*Rogers*).

This is the largest species of *Plagiodera* from Central America known to me, and, at the same time, one of the handsomest, being of a black ground-colour, with four red elytral spots. Only a single specimen was obtained by Mr. Rogers.

13. **Plagiodera viridipennis.**

Plagiodera viridipennis, Stål, Diagn. 1860, p. 468; Monogr. Chrys. Amer. p. 310[1].

Hab. Nicaragua, Chontales (*Janson*).—Brazils[1].

I cannot discover any difference of importance to justify the separation of the Nicaraguan forms from Stål's type, which I have before me for comparison.

LINA.

Lina, Redtenbacher, Fauna Austriaca, 1849, p. 551.
Melasoma, Stephens, Brit. Entom. 1831, p. 351.
Plagiodera, Stål, Monogr. Chrys. Amer. p. 293.

The insects comprising this genus have much in common with *Plagiodera*, in which genus Stål has included them; their general "habitus," however, and the form of the

thorax (which is shorter and less rounded than in *Plagiodera*, and has, moreover, a shallow groove at each side) justify its separation from the latter genus. The metasternum (not mesosternum as misprinted in Chapuis's 'Genera') is similarly shaped as in the preceding genus. Although the genus is found in all parts of the globe, the Central-American species are but few in numbers, and those principally confined to Mexico. One species has been described from Chili; and two specimens of a known form were obtained by Mr. Champion in Guatemala.

1. **Lina scripta.** (Tab. X. fig. 2.)

Lina scripta, Fabr. Syst. Eleuth. i. p. 438[1]; Olivier, Entom. v. p. 559[2]; Suffr. Stett. ent. Zeit. 1858, p. 389[3]; Stål, Monogr. Chrys. Amer. p. 294[4].

Lina lineatopunctata, Forst. Nov. Spec. Ins. 1771, p. 22.

Hab. North America[1 2 3 4].—Mexico[3], Guanajuato (*Dugès, coll. Sallé*).

This species seems to have its most southern limit in Mexico, and there even seems to be rather rare, only four specimens being contained in M. Sallé's collection, and none having been met with by Herr Höge. One of the former is figured.

2. **Lina depressa.** (Tab. X. fig. 3.)

Lina depressa, Suffr. Stett. ent. Zeit. 1858, p. 390[1]; Stål, Monogr. Chrys. Amer. p. 295[2].

Hab. Mexico[1 2], Oaxaca, Puebla, Jalapa, La Parada (*Sallé, Höge*); British Honduras, river Sarstoon (*Blancaneaux*); Guatemala, San Gerónimo (*Champion*).

Although similarly marked to *L. scripta*, the very rugose upper surface of the present species is a good distinguishing character. The species is liable to variation in regard to the elytral marks, which sometimes are confluent, or disappear altogether, or nearly so, as shown in the two specimens from Guatemala. A specimen from Oaxaca is figured.

3. **Lina scabricula.**

Plagiodera scabricula, Stål, Diagn. 1860, p. 466; Monogr. Chrys. Amer. p. 297[1].

Hab. Mexico, Oaxaca[1], Guanajuato (*Dugès, coll. Sallé*), Cordova, Juquila (*Sallé*).

Of a fulvous colour throughout, the elytra with a more or less distinct violaceous tint. The sculpturing is almost identical with that of *L. depressa*; but the present species is much smaller and without any elytral markings. It is a true *Lina*, not *Plagiodera*, in which genus Stål included it. From unspotted varieties of *L. depressa* it may be distinguished by the narrower thorax, the anterior and posterior margins of which are much more semicircular than in *L. depressa*, in which the thorax is longer.

CALLIGRAPHA.

Calligrapha, Erichson, Archiv f. Naturg. 1847, i. p. 158.
Calligrapha, Stål, Öfv. af K. Vet.-Akad. Förh. 1860, p. 460.
Chrysomela, Stål, Monogr. Chrys. Amer. 1862; Olivier, Entom. v. p. 532.

Calligrapha was founded by Erichson on a species from Peru, *C. matronalis*. Chapuis, in his 'Genera des Coléoptères,' has dwelt at length upon the characters of this interesting genus, which offers almost all the structural peculiarities of our European genus *Chrysomela*. In comparing the two genera, a small number of not very important differences may be pointed out, such as the raised prosternum in *Calligrapha* (this part being generally flat and grooved in *Chrysomela*), and the somewhat longer third joint of the antennæ in the former genus. It is, however, when we look to the sculpturing of the elytra that the difference is at once striking and interesting. We find there that pattern and punctuation seem to be dependent on each other (a circumstance almost without parallel amongst the Coleoptera) in such a way that all the spots or darker markings are limited by impressed punctures, beyond which the former do not extend.

The elytra when examined from their inner side show the same sculpturing as above, but look as if they were lined with a fine skin, which gives a more obsolete appearance to the punctures; these latter, together with the dark spots of the upperside, can be scraped off with a sharp instrument, proving the punctuation to be of little depth; those of the inner side, however, remain when the former are removed, and are therefore independent punctures. A close investigation of these sculpturings in the genus *Calligrapha* in different stages of development would perhaps throw some light on the connexion of spots and punctures in these insects.

Chapuis's remarks on the differences in the shape of the jaws between *Calligrapha* and *Chrysomela* seem to be very noteworthy, these organs being very robust, thickened, and forming an almost square-shaped mass in the former. The metallic golden appearance of most species of *Calligrapha* when in a living state has already been drwan attention to by other authors. We find the same character in many species of the Australian genus *Paropsis* and amongst the Cassididæ. The present genus is principally found in Central America; a few species are known from more southern parts. Shape and sculpturing offer but little guidance in the determination of these insects, being very variable; but the elytral designs seem to be more constant, and form almost the sole clue to the separation of the numerous species.

1. **Calligrapha æneopicta.** (Tab. X. fig. 12.)

Calligrapha æneopicta, Stål, Monogr. Chrys. Amer. p. 273[1].
Calligrapha suturalis, Sturm, Cat. 1843, p. 288[2].

Hab. Mexico[1 2], Cordova, Toxpam, Orizaba, Jalapa (*Sallé*, *Höge*).

Easily distinguished by the entire absence of any *small* elytral spots. The general colour is a dark greenish; the thorax has a small fovea at each side; the elytra have the usual elongate shoulder-spot, and the suture is widened before the middle, sending off two small spots at right angles behind the middle. Amongst twenty-six specimens two only are before me, in which two or three small spots are placed near the lateral margin behind the middle; generally there is only the spot at the shoulder present.

2. **Calligrapha diversa.** (Tab. X. fig. 15.)

Chrysomela diversa, Stål, Diagn. 1859, p. 324[1]; Monogr. Chrysom. Amer. p. 274[2].

Hab. Mexico[1 2], Etla, Juquila, Oaxaca, Cuernavaca, Guanajuato, Jalapa, Cerro de Plumas (*Sallé*, *Höge*); Guatemala (*Sallé*), Dueñas, Zapote, Capetillo, Purula (*Champion*); Nicaragua, Chontales (*Belt*); Costa Rica (*van Patten*).

In the type from Mexico the green suture of the elytra is divided or split below the base into a thin branch, pointing outwards; a row of five spots runs straight and parallel with the lateral margin, leaving the latter entirely without any spots from base to apex, which is one of the characteristic features of this species; the position of the spots is shown in the figured specimen from Juquila. In all the Guatemalan specimens, with a single exception, the suture is not split as in the type, but extends to nearly the basal margin, in which respect it resembles closely *C. simillima* from Venezuela, a species which is doubtless only a variety of the present form; the other elytral spots in the Guatemalan insects are also placed somewhat closer, and are of larger size; but this character sometimes varies, and I cannot consider it of specific value, the position of the spots and all other characters being identical.

3. **Calligrapha geographica.** (Tab. X. fig. 18.)

Chrysomela geographica, Stål, Diagn. 1860, p. 462[1]; Monogr. Chrys. Amer. p. 276[2].

Hab. Mexico[1 2], Cosamaloapam, Playa Vicente (*Sallé*).

There is very little difference between the present and the preceding species; the head and thorax are rather more closely punctured; and the markings of the elytra, although similar, are more closely placed; the sutural design is broader; and a thin dark line composed of several spots runs parallel with the lateral margin, this part in *C. diversa* showing no trace of any markings. This species seems to be entirely confined to Mexico.

4. **Calligrapha consputa.** (Tab. X. fig. 17.)

Chrysomela consputa, Monogr. Chrys. Amer. p. 275[1]; Diagn. 1860, p. 462[2].

Hab. Mexico, Oaxaca[1 2], Panistlahuca (*Sallé*).

In this species there is again a nearly spotless narrow lateral margin of the elytra,

like *C. diversa* and *C. geographica*, from both of which the much more numerous and smaller spots situated between the shoulder and apex separate the present insect. The whole of the elytra, in fact, is covered with dark markings in such a way as to leave but very narrow spaces of the ground-colour. The species seems to be a rather rare one in Mexico, as only three specimens are contained in M. Sallé's collection, and none in that of Herr Höge.

5. **Calligrapha scalaris.** (Tab. XI. fig. 6.)

Calligrapha scalaris, Leconte, Ann. Lyc. N. Y. i. p. 173, 1824, t. 2. f. 18 [1]; Rogers, Proc. Acad. Phil. viii. 1856, p. 32, t. 1. f. 2; Suffr. Stett. ent. Zeit. 1858, p. 256 [4]; Dej. Cat. 3rd ed. p. 422.
Chrysomela philadelphica, Kirby, Faun. Bor.-Amer. iv. p. 210 (1837) [2].
Chrysomela multiguttis, Stål, Monogr. Chrys. Amer. p. 261 [3].

Hab. North America, Canada, Missouri [1 2 3].—Mexico [4].

This species has been amply described by the above authors, and more particularly by Suffrian, and may best be compared with *C. diversa*, from which it is distinguished by the spot situated at the middle of the elytral margin, and by the red antennæ and legs. Although this species seems to have been well known to Stål, he has described it again under another name, quoting the original names as synonyms. In its elytral markings it is almost identical with *C. diversa*; but in that insect the elytral margin is always spotless, while in the present one a single spot is placed at the middle of the lateral margin. No specimen is contained either in M. Sallé's or Herr Höge's collection. I possess, however, two specimens, received from M. Boucard, from Mexico which show the same difference from the North-American forms as already pointed out by Suffrian.

A specimen from the collection of Sturm is labelled by him *C. rufipes*. The synonyms of *C. lateralis*, Stm., given in Gemminger's Catalogue must therefore refer to another species. One of the Mexican specimens from my collection is figured.

6. **Calligrapha multipustulata.** (Tab. X. fig. 16.)

Chrysomela multipustulata, Stål, Diagn. 1859, p. 325; Monogr. Chrys. Amer. p. 275 [1].

Hab. Mexico [1], Cuernavaca, Chiapas (*Sallé*); Guatemala [1] (*coll. Baly*).

The type, in the collection of Mr. Baly, has the elongate shoulder-spot divided into two branches, and a semicrescent spot near the scutellum. The spots from the middle to the apex number sixteen, and are rather irregularly distributed and small; another spot is placed exactly at the middle of the lateral margin.

7. **Calligrapha ancoralis.** (Tab. X. fig. 20.)

Chrysomela ancoralis, Stål, Diagn. 1860, p. 462; Monogr. Chrys. Americ. p. 278 [1].

Hab. Mexico [1] (*Sallé*), Jalapa (*Höge*), Ventanas (*Forrer*).

As will be seen in the figure, the present species is rather easily distinguished by its

anchor-shaped mark below the middle of the elytra; it varies, however, in this respect, as sometimes the triangular point of the anchor is separated, and often not even the same at each elytron. I have only seen, besides the type in Mr. Baly's collection, six specimens from Mexico, amongst which is a rather small one formerly in the collection of Sturm, and labelled by him *C. imperialis*.

8. **Calligrapha novemmaculata.** (Tab. XI. fig. 20.)

Greenish æneous below, clypeus, antennæ, and legs rufous; elytra testaceous, the suture, a short vitta attached to it, the apex of which is curved outwards, an elongate shoulder-spot, a round spot near the scutellum, another at the middle of the lateral margin, and six small spots at the disk of each elytron dark purplish. Length 3 lines.

Head almost impunctate; clypeus, palpi, and antennæ rufous; the last five joints of the latter distinctly thickened, the terminal joints slightly longer than broad; thorax greenish æneous, its sides straight near the base, then slightly rounded towards the apex, the anterior angles produced, but not very acute, surface finely and rather closely punctured, the sides more strongly but not deeply punctate. Elytra convex, the sutural band widened directly below the base and produced into a very short point; before the middle another band is attached to it, which is also produced anteriorly in a longer point, and posteriorly in a narrow curved hook almost extending to the lateral margin, where an elongate spot widened in the middle is placed; the usual shoulder-spot is elongate, rather pointed posteriorly, but not bilobed, and extends slightly below the commencement of the sutural vitta; a single spot is placed near the scutellum, four others, obliquely, within the curved branch of the sutural band, and two more near the apex, the inner one of which is elongate and the largest.

Hab. GUATEMALA, Sabo (*Champion*).

C. ancoralis seems to be the only species with which I can compare the present one; the latter, however, is smaller, and the elytral markings are of different shape, the marginal spot is much longer, and the suture is devoid of the spot attached to it near the apex in *C. ancoralis*. There are, besides this, other differences, which must be compared in the figures. Only a single specimen has been received.

9. **Calligrapha notatipennis.** (Tab. X. fig. 25.)

Calligrapha notatipennis, Stål, Diagn. 1859, p. 324[1].

Chrysomela notatipennis, Stål, Monogr. Chrys. Amer. p. 283[2].

Hab. MEXICO [1 2], Jalapa, Vera Cruz, Orizaba, Tuxtla, Cordova, Juquila (*Sallé*, *Höge*); NICARAGUA, Chontales (*Janson*); COSTA RICA (*coll. Jacoby*).

Distinguished by its ferruginous colour. The elytra have always *two* spots below the base, placed longitudinally near the suture; the latter has a short curved band attached to its hinder portion, and generally connected anteriorly with the very elongate shoulder-spot, which latter extends quite to the middle of the elytra, and below which are placed two rows of punctures in a parallel position, each row consisting of three spots; another very small spot is visible near the lateral margin below the base: in a female specimen from Vera Cruz there is also a band placed from the middle to the apex at the extreme lateral margin; but the specimen differs in no other respect from the type, which is

before me. Numerous specimens were obtained by Herr Höge. A specimen from Cordova is figured.

10. **Calligrapha labyrinthica.** (Tab. XI. figg. 1, 2, 3.)

Calligrapha labyrinthica, Stål, Diagn. 1859, p. 324; Monogr. Chrys. Amer. p. 282[1].
Calligrapha flavosignata, Sturm, Cat. 1843, p. 288.

Hab. Mexico[1] (*coll. Baly*), Yolos, Mazatlan, Cuernavaca (*Sallé*).

I have great doubt as to the specific distinction of this species from *C. notatipennis*. Both insects agree exactly in the elytral design; but in the last-named species the band which occupies the extreme lateral margin from the middle to the apex is often, but not always, absent, and intermediate forms from the same locality may be referred to either species. The markings, it will be seen, are broader than in *C. notatipennis*; the shoulder-spot is connected with the suture, the attached branches of which are less free at their extremities than in this insect generally; but, as I said before, intermediate forms are before me which show the variability of the elytral markings of these insects within certain limits; perhaps the best distinctive character between the two allied species is the fuscous margin which generally surrounds all the elytral markings in the present one; these latter are often confluent, and occupy nearly the entire disk, as shown in fig. 2 (from Mazatlan); fig. 1 is from a specimen in Mr. Baly's collection named by Stål, the third being taken from a specimen formerly in Sturm's collection, and named by him.

11. **Calligrapha suffriani.** (Tab. XI. fig. 16.)

Obscure greenish æneous; thorax, antennæ, and legs obscure rufous; elytra testaceous, the suture, an elongate shoulder-spot, posteriorly divided into three parts, three spots at the lateral margin, eight or ten smaller ones below the middle, another attached to the suture near the apex, and a sutural curved stripe below the middle rufous.

Length 4–4½ lines.

Head closely and rather finely punctured; antennæ with the last six joints distinctly thickened, the last joint longer than broad; thorax with the sides but very slightly rounded, surface very remotely and finely punctured, the sides subfoveolate-punctate. Elytra rather elongate, moderately convex, light testaceous, the suture and extreme lateral margin, as well as the epipleuræ, rufous; attached to the suture is a short curved stripe below the middle and a spot near the apex; at the shoulder an elongate stripe extends nearly to the middle of the elytra, and is divided at its end into three narrow branches, the inner one of which curves towards and nearly touches the sutural margin, the middle one being directed towards the sutural stripe and the outer one towards the lateral margin; near the latter are placed three spots, one below the base, the second at the middle, and the third near the apex; the rest of the disk is occupied by about ten very small spots, placed remotely and at irregular distances from each other.

Hab. Mexico, Guanajuato (*Dugès, coll. Sallé*).

The only species with which I can compare the present one is *C. notatipennis*; but in that insect the thorax is much more transverse, and very nearly as wide as the elytra, while in the present species the latter are much wider at the base, and the sutural brown stripe is not split near the base, but extends almost as far as the latter; in *C. notatipennis* the two posterior spots near the lateral margin are absent, and those at

the disk much larger and placed in rows. *C. suffriani* is altogether a more elongate and less convex species.

Three specimens, one of them an immature one, are contained in M. Sallé's collection.

12. **Calligrapha suboculata.** (Tab. X. figg. 13, 14, 23.)

Calligrapha suboculata, Stål, Diag. 1859, p. 325; Monogr. Chrys. Amer. p. 279[1].

Hab. Mexico [1], Cordova, Toxpam, Orizaba, Cerro de Plumas, Jalapa (*Sallé, Höge*).

The figures represent a male and a female specimen from Toxpam, and a variety from the same locality. It will be seen that the species resembles greatly in its design *C. notatipennis.* The latter, however, is always of a rufous colour; and the posterior stripe attached to the suture is free at its anterior portion and placed further towards the apex of the elytron than in the present species. The broad oblique shoulder-stripe in *C. suboculata* is generally attached to the sutural stripe at the middle of the elytra; but the spots between this portion and the apex vary in number from one to six; the spot at the middle of the lateral margin, however, is always present. The general colour of the insect varies from rufous to greenish æneous, the thorax having sometimes both colours mixed in various ways.

13. **Calligrapha intermedia.** (Tab. XI. fig. 19.)

Greenish or brownish æneous below; the basal joints of the antennæ ferruginous; elytra testaceous, the suture with a short vitta and a spot attached to it posteriorly, a broad band at the shoulder, from the base to the middle, two spots near the scutellum, one below the other, and seven or eight irregular-shaped spots below the middle of each elytron obscure dark æneous.

Length $4\frac{1}{2}$ lines.

Antennæ gradually thickened at the last joints, the terminal one distinctly longer than broad; thorax strongly but remotely punctured on the disk, deeply foveolate-punctate at the sides, the latter nearly straight and only rounded near the anterior angles, which are produced and extend further than the eyes. Elytra of the same shape as in *C. consputa*, the sutural and extreme lateral margins with a short curved vitta, attached to the former below the middle, and a sutural spot near the apex brownish æneous; the usual band at the shoulder extends as far as the middle, quite or nearly touching with its posterior end the subsutural vitta; below the base, near the scutellum, two spots are placed one below the other, the basal one being the smallest of the two, while the space below the band at the shoulder is occupied by seven or eight rather large spots, placed in two rows parallel with the lateral margin, but of dissimilar shape and at unequal distances; the suture near the extreme apex has another small spot attached to it; further, two more or less distinct spots are placed near the lateral margin, one before the other, at the middle of each elytron. Legs greenish æneous or rufous, with a metallic green gloss.

Hab. Mexico, Panistlahuca (*Sallé*).

I am obliged to separate this species from its allies *C. consputa* and *C. geographica*, on account of the elytral markings, which differ from those of the last-named species in the following ways: the vitta at the shoulder extends here to the middle of the elytra; the attached sutural stripe is placed *below* the middle instead of *before*; and *two* spots are placed near the scutellum instead of one. The two specimens before me differ slightly from each other; in one of them the elongate band at the shoulder is divided

posteriorly, and does not quite touch the sutural vitta, while in the other specimen the first of the spots placed near the lateral margin is absent. The shape of the thorax, as well as its punctuation, also varies: in both specimens the thorax is slightly narrower at the base than the elytra; but in one the punctuation is less close, and a small fovea is placed at each side, the thorax being at the same time less long and the anterior angles more acute, which probably is attributable to sexual difference.

14. **Calligrapha pnirsa.** (Tab. XI. fig. 18.)

Calligrapha pnirsa, Stål, Diagn. 1860, p. 462; Monogr. Chrys. Amer. p. 279[1].

Hab. Costa Rica[1].

The only specimen which I have seen is the type in Mr. Baly's collection. I am inclined to believe that the species is but an extreme variety of *C. ancoralis.* In the present insect nearly all the elytral markings are confluent.

15. **Calligrapha ramulifera.** (Tab. XI. fig. 4.)

Calligrapha ramulifera, Stål, Diagn. 1859, p. 325; Monogr. Chrys. Amer. p. 278[1].
Polyspila scalaris, Guér. Verh. zool.-bot. Ver. Wien, 1855, p. 606[2].

Hab. Guatemala[2], Zapote (*Champion*); Costa Rica, Volcan de Irazu (*Rogers*).—Ecuador[1].

Guérin's type, in the collection of M. Sallé, and another specimen (named by Stål), in Mr. Baly's collection, which is now figured, agree well with several specimens obtained by Mr. Champion. The usual spot at the shoulder is in this species short and subquadrate; and the rest of the spots are extremely small and surrounded by a pale margin, this latter being also visible round the sutural design.

16. **Calligrapha argus.** (*C. famularis,* Tab. X. fig. 19.)

Calligrapha argus, Stål, Diagn. 1859, p. 462; Monogr. Chrys. Amer. p. 277[1].
Calligrapha famularis, Stål, Diagn. 1860, p. 462; Monogr. Chrys. Amer. p. 277[2].

Hab. Mexico[1 2], Campeche (*Pilate, coll. Baly*), Minas Viaxas (*Dr. Palmer*), Vera Cruz, Etla, Juquila, Cerro de Plumas, Almolonga, Tuxtla (*Sallé, Höge*); Guatemala, Capetillo, Sinanja, San Gerónimo, Panajachel, Purula, Chacoj, Cerro Zunil, El Reposo (*Champion*); Nicaragua, Chontales (*Janson*); Costa Rica, Volcan de Irazu (*Rogers*).

I have no doubt that the above two species described by Stål are in reality identical, as the very numerous specimens and the type before me prove. The species is a rather variable one in regard to the colour and number of the elytral spots, some specimens having the latter of a rufous, others (and they are the majority) of a greenish colour.

Stål's *C. famularis* is founded on a specimen in which the spots are larger and more closely placed in consequence; but the insect does not differ sufficiently from his *C. argus* to justify its being considered a distinct one. It is even doubtful to me whether

C. ramulifera is a good species, and not a variety of the present insect in which the spots, although larger, are placed similarly, as several intermediate forms before me may be referred to either species. In *C. argus* the design of the elytra consists, besides the broad shoulder-spot, which sends a short branch off towards the suture, in a round spot near the scutellum, in a central spot at the lateral margin, and in two rows of smaller spots placed longitudinally and in parallel lines on the disk, the first row consisting of five, the second of four spots generally; near the suture (which has four indentations, counting the two posterior spots attached to it as such) there is another round spot, placed close below the second indentation, either free or connected with the suture. All these designs and spots are also present in *C. famularis*, but rather more confluent. A specimen from Vera Cruz is figured.

17. **Calligrapha tortilis.** (Tab. X. fig. 21.)

Calligrapha tortilis, Stål, Diagn. 1859, p. 323; Monogr. Chrys. Amer. p. 282[1].

Hab. Guatemala[1] (*Sallé*); Costa Rica[1].

The thorax and the legs of this species are dark brown with a slight purplish gloss. The design of the elytra resembles somewhat that of *C. ancoralis*; but in the latter the shoulder-spot is not connected with the suture, which is the case in the present species, which shows also two spots below the base (the lower of which is attached to the oblique band from the shoulder) and two others near the extreme lateral margin. The insect was not obtained either by Mr. Champion or Herr Höge.

18. **Calligrapha eupatris.** (Tab. X. fig. 22.)

Calligrapha eupatris, Stål, Diagn. 1860, p. 462; Monogr. Chrys. Amer. p. 281[1].

Hab. Mexico, Cerro de Plumas (*Höge*; *Sturm, coll. Sallé*); Guatemala[1] (*Sallé*), Dueñas, Capetillo, San Gerónimo (*Champion*).

Stål evidently described this species from a single specimen in Mr. Baly's collection, which is now before me, and which agrees perfectly with a number of others from different parts of Guatemala, except in the general colour of its elytra, which in the type are light testaceous, most of the Guatemalan specimens being of a light brown colour. The broad spot at the shoulder is free in the type, but united with the sutural stripe before the middle in most of the other specimens; of the other isolated spots, five are situated parallel with the lateral margin, three or four placed longitudinally from the middle to the apex, and a V-shaped spot, often indistinct, near the suture at the middle.

Two specimens obtained by Herr Höge vary a good deal from the Guatemalan forms: the head shows one or three fulvous spots in an æneous specimen, the other being of a more fulvous colour; the elytral spots near the suture are irregular and confluent; and the testaceous ground-colour is dotted over by irregular piceous small

spots; but the general arrangement of the latter clearly show the specimens to belong to the present species, which may be also known by the sutural stripe, instead of branching off in different directions as in most other species of *Calligrapha*, being of nearly equal width and without any divisions or spots attached to it.

19. **Calligrapha serpentina.** (Tab. X. fig. 11.)

Chrysomela serpentina, Rogers, Proc. Ac. Philad. 1857, p. 32[1]; Suffrian, Stett. ent. Zeit. 1858, p. 258.

Calligrapha mexicana, Stål, Diagn. 1859, p. 323; Monogr. Chrys. Amer. p. 270[2].

Hab. North America, Texas[1].—Mexico[2], Ventanas (*Forrer*), Tuxtla, Guanajuato, Playa Vicente (*Sallé, Höge*), Queretaro (*Dr. Palmer*); Nicaragua, Chontales (*Janson*).—Venezuela[2].

This seems a very widely distributed species, being found in most collections, and is easily recognized by the S-shaped longitudinal subsutural stripe; from Ventanas and Tuxtla I have several specimens which differ either in wanting the posterior transverse line attached to the S-shaped stripe, or in having the shoulder-spot attached to the latter anteriorly. Besides these differences, some specimens (no doubt immature) are fulvous with a bluish gloss; others show a more elongate, posteriorly narrowed shape; but I have no doubt whatever that they are but local forms of the same species.

20. **Calligrapha viginti-maculata.** (Tab. XI. fig. 11.)

Calligrapha 20-maculata, Chevrol. Coléopt. du Mex. 1833[1]; Stål, Monogr. Chrys. Amer. p. 285[2].

Hab. Mexico[1 2], Orizaba, Cordova (*Sallé*); Guatemala, Capetillo, Cerro Zunil, Dueñas (*Champion*).

The locality given by Chevrolat and Stål is Mexico only. Mr. Champion has obtained many specimens in Guatemala. The insect is easily recognized by the twenty roundish silvery spots of the elytra; the latter vary, however, from greenish æneous to piceous, of which colour I have several specimens from Mexico before me. The shape and colour of the spots are equally variable; they are either yellow or metallic golden or silvery, while their shape is round, oval, or irregularly angulate; but their position is always the same.

21. **Calligrapha stillatipennis.** (Tab. XI. figg. 14, 15.)

Calligrapha stillatipennis, Stål, Diagn. 1859, p. 326; Monogr. Chrys. Amer. p. 285[1].

Hab. Mexico[1], Juquila, Cerro de Plumas (*Sallé, Höge*).

Of this species I have two specimens before me labelled by Sturm *C. maculata*. The elytral spots resemble, in their position, those of *C. 20-maculata*; but they are smaller, of less rounded shape, and have no punctures, but are smooth and rather convex or raised; the interstices are more strongly punctured and almost rugose-punctate. I also

refer two specimens to this species which were obtained by Herr Höge, and of which one (fig. 15) is figured. Although at first sight they seem to be very different, a close examination shows that they are evidently but a variety in which the dark rings surrounding the light spots are so far reduced at the posterior portion of the elytra that only three small spots, as well as the commencement of these rings near the sutural and lateral margins, remain; in other respects they show but little difference, the ground-colour of the elytra being more fulvous than is the case in the type and the general size larger.

Two specimens from Juquila, which I refer to the present species, seem to be intermediate between the two insects figured. In one of them the elytra are almost entirely of a dark purplish, with a few small yellow spots and transverse markings which correspond in their position to those seen in fig. 14. In the other specimen these spots are more numerous, and the legs and part of the mouth are dark rufous, but the position of the light spots is the same. The present species seems to be distinguished from all others, besides the differences pointed out above, by the narrowly but constantly black or dark elytral margin, which commences below the base and extends to the apex.

22. **Calligrapha multiguttata.** (Tab. X. figg. 5, 6.)

Calligrapha multiguttata, Stål, Diagn. 1859, p. 326; Monogr. Chrys. Amer. p. 265 [1].
Calligrapha alboguttata, Sturm, Cat. 1843, p. 288 [2].

Hab. Mexico [1 2], Puebla, Chiapas, Yolos (*Sallé*), Ventanas (*Forrer*); Guatemala, near the city (*Salvin*).

This is a species of rather small size and peculiar elytral marking, the latter being represented in normally coloured specimens by about nine large whitish spots surrounded by narrow æneous rings; the size and number of these spots are very variable, either the light ground-colour or the dark surroundings predominating, the latter sometimes occupying nearly the entire disk in the shape of broad longitudinal bands, as shown in the variety (fig. 6). In all the specimens I have seen, the sutural band never extends to the base; and a small spot at the middle of each lateral margin seems to be constant.

23. **Calligrapha barda.** (Tab. XI. figg. 12, 13.)

Chrysomela barda, Say, Boston Journ. Nat. Hist. 1835, p. 197 [1].
Calligrapha morbida, Stål, Diagn. 1859, p. 326; Monogr. Chrys. Amer. p. 285 [2].

Hab. Mexico [1 2], Puebla, Yolos (*Sallé*).

This insect, described by Say under the generic name of *Chrysomela*, can only be referred to Stål's *C. morbida*, who himself simply reprinted Say's description under those species unknown to him. A true *Chrysomela* spotted like Say's species is not known; the insect agrees in every way with the species described by Stål; and I have not the slightest doubt as to their identity. The elytra are crowded with irregular

yellow spots, which only leave a transverse space below the base and the suture of the ground-colour. Say remarks that the species is a common one in Mexico; I have myself seen but half a dozen specimens in the collection of M. Sallé and others. The figure will give a better idea of the elytral spots than any description. A single specimen from Yolos (fig. 13) differs, however, in the shape and number of the spots, which are less numerous at the posterior part of the elytra; while the space below the base, which in normal specimens is always unspotted, shows here three spots in a triangular position close to the suture; the elytral epipleuræ, also, are yellowish white at their anterior portion. Whether the specimen represents a distinct species I cannot decide, as I have no others to compare; as it does not differ in any other respect, it is probably but a local variety.

24. **Calligrapha fulvipes.** (Tab. X. fig. 8.)

Calligrapha fulvipes, Stål, Diagn. 1859, p. 323[1]; Monogr. Chrys. Amer. p. 268[2].
Calligrapha marmorata, Chevr. Dej. Cat. 3rd ed. p. 422[3].

Hab. Mexico [1 2 3], Toxpam, Cordova, Orizaba, Tuxtla, Jalapa, Oaxaca (*Sallé*, *Höge*); British Honduras, river Sarstoon (*Blancaneaux*); Guatemala, Zapote, Capetillo, Dueñas, San Gerónimo, Cubilguitz, Purula, Teleman, Cerro Zunil (*Champion*); Costa Rica (*van Patten*).

The antennæ and legs of this species are fulvous; the design of the elytra consists of an oblique thick shoulder-spot and another one of oval shape behind the middle, which two spots are the largest of all; the interspaces are covered with about nine or ten very small spots, of which two are placed at the anterior portion of the lateral margin and one near the scutellum. The species seems to be a not uncommon one in Mexico. Two very closely allied species are *C. pantherina* and *C. felina.*

25. **Calligrapha pantherina.** (Tab. X. fig. 9.)

Calligrapha pantherina, Stål, Diagn. 1859, p. 323; Monogr. Chrys. Amer. p. 268[1]; Chevr. Dej. Cat. p. 423[2].

Hab. Mexico [1 2], Vera Cruz, Cordova, Playa Vicente, Guanajuato (*Sallé*); Guatemala (*Sallé*), near the city (*Salvin*), Dueñas, Capetillo (*Champion*); Nicaragua, Chontales (*Belt*).

This species bears such a close resemblance, excepting its size, to *C. felina* that I doubt much its specific distinctness. It is true that the latter is larger and the elytral spots more numerous; but this latter character is very variable and often not even the same on both elytra. One can at all events distinguish *C. pantherina* generally by its smaller size and the smaller spots, of which only the one at the shoulder and another behind the middle are more prominent, but never reaching the size of those in the allied form.

26. **Calligrapha felina.** (Tab. X. fig. 10.)

Calligrapha felina, Stål, Diagn. 1860, p. 461[1]; Monogr. Chrys. Amer. p. 268[2].
Calligrapha signatipennis, Sturm, Cat. 1843, p. 288[3].

Hab. Mexico[1 2 3], Guanajuato (*Dugès, coll. Sallé*), Oaxaca, Cerro de Plumas, Juquila, Etla, Durasnal, Cuernavaca (*Sallé, Höge*).

As I remarked before, the present species seems to be separated from the preceding one by but slight characters, which are the greater size and the larger spots, of which, as in *C. pantherina*, only the shoulder-spot and the one behind the middle are the largest; structural characters of any consequence I cannot find any. The two species in question differ from *C. fulvipes*, in which the elytral spots are similarly arranged, in the greater number of the latter, *C. fulvipes* having spots of double the size of those in either *C. felina* or *C. pantherina*.

27. **Calligrapha billbergi.** (Tab. X. fig. 7.)

Calligrapha billbergi, Stål, Diagn. 1860, p. 461[1]; Monogr. Chrys. Amer. p. 266[2].

Hab. Mexico[1 2] (*Sallé*).

This species is not difficult to recognize on account of the two spots placed transversely near the scutellum, the transverse short band across the sutural margin, and the eleven rather large spots of almost equal size, of which two occupy the extreme lateral margin; the shoulder-spot is very elongate and rather curved, extending to nearly the middle of the elytra.

28. **Calligrapha limbaticollis.** (Tab. XI. figg. 8, 9.)

Calligrapha limbaticollis, Stål, Diagn. 1859, p. 324; Monogr. Chrys. Amer. p. 283[1].

Hab. Mexico[1] (*Sallé*).

In this insect the ferruginous colour prevails and occupies in its design nearly the whole of the elytra as well as parts of the thorax; the synonym of *C. maculicollis*, Sturm, as given in Gemminger's Catalogue, does not refer to the present, but represents another allied species. The figures are taken from a normally coloured specimen and a variety (fig. 9). The species does not seem to be an abundant one; it was not obtained by Herr Höge, and is represented in M. Sallé's collection by three specimens only.

29. **Calligrapha gyllenhali.** (Tab. XI. fig. 10.)

Calligrapha gyllenhali, Stål, Diagn. 1859, p. 324; Monogr. Chrys. Amer. p. 284[1].
Calligrapha maculicollis, Sturm, Cat. 1843, p. 288[2].

Hab. Mexico[1 2] (*Sallé, coll. Sturm*).

The two specimens named by Sturm, and contained in M. Sallé's collection, prove this species to be the *C. gyllenhali* of Stål. In general coloration it is allied to

C. limbaticollis; but it is larger, and the elytra have three longitudinal stripes, of which the outer one is curved in the shape of an S. The species seems to be a very rare one.

30. **Calligrapha euplecta.** (Tab. XI. fig. 5.)

Calligrapha euplecta, Stål, Diagn. 1860, p. 462; Monogr. Chrys. Amer. p. 281[1].

Hab. Mexico (*Baly*); Guatemala[1], Dueñas (*Champion*).

In this species the antennæ and legs are rufous. The elytra have three spots placed at the lateral margin—one before, the second at, and the third behind the middle; the shoulder-spot is connected with the suture before the middle, and includes a spot near the scutellum; in the type, which is figured, the spots are much more confluent, forming almost transverse dentate bands, while in the other specimens from Guatemala they are smaller and free. The principal characters of distinction in the present species are the three marginal spots and the red legs and antennæ. I have not seen any specimens in either M. Sallé's or Herr Höge's collection, and but few from Guatemala.

31. **Calligrapha sylvia.** (Tab. XI. fig. 7.)

Calligrapha sylvia, Stål, Diagn. 1860, p. 462; Monogr. Chrys. Amer. p. 273[1]

Hab. Mexico[1], Cosamaloapam (*Sallé*).

The underside, thorax, and legs of this species are piceous or dark brown, as well as the elytral design: of this the shoulder-spot is not divided at the apex, but ends in a point, near which a small round spot is placed; the sutural stripe has two blunt teeth, one near the base and one before the middle; behind the latter it is connected with a large round spot directed backwards; of other spots there are but two or three, with traces sometimes of several minute spots, all parallel with the lateral margin, which is entirely *unspotted*. I have seen but two specimens—the type (which is figured) and one in the collection of M. Sallé.

32. **Calligrapha matronalis.** (Tab. XI. fig. 17.)

Calligrapha matronalis, Erichs. Arch. f. Naturg. 1847, p. 158[1]; Stål, Monogr. Chrys. Amer. p. 266[2].

Hab. Panama (*Ribbe*).—Bolivia[2]; Peru[1 2].

The spots of the elytra are of comparatively large size and very near together, the oblique curved shoulder-spot, a transverse one near the suture at the middle, and a triangular one below it being the largest; near each lateral margin two small spots are placed anteriorly, at the sides of which another one forms with them a triangle. The specimen figured is one of two obtained by Herr Ribbe.

33. Calligrapha dislocata.

Chrysomela dislocata, Rogers, Proc. Acad. Philad. 1856, p. 32[1], t. 1. f. 4; Suffrian, Stett. ent. Zeit. 1858, p. 258[2]; Stål, Monogr. Chrys. Amer. p. 264[3].

Calligrapha circumflexa, Sturm, Cat. 1843[4].

Hab. North America, Texas[1 2].—Mexico[3 4], Puebla (*Sallé*).

Suffrian has given a more lengthened description of this species than Rogers, likewise Stål. All the specimens which I have for comparison have the outer curved stripe connected with the shoulder-spot. Specimens in which the latter is separated, as figured by Rogers, I have not seen.

34. Calligrapha violaceo-maculata. (Tab. XIV. fig. 22.)

Calligrapha violaceo-maculata, Jacoby, P. Z. S. 1878, p. 147.

Hab. Costa Rica (*coll. Jacoby*).

Of this handsome species a single specimen is contained in my collection. The elytral markings, as will be seen, are unlike those of any other species of *Calligrapha* in regard to the absence of small spots and the violaceous colour of the markings; the thorax is of a dark metallic green, the antennæ and legs being fulvous. The species must be a very rare one, as I have not seen any other specimen from Central America.

35. Calligrapha elegantula. (Tab. XIV. fig. 18.)

Calligrapha elegantula, Jacoby, P. Z. S. 1877, p. 519.

Hab. Costa Rica (*van Patten*), Cache, Volcan de Irazu (*Rogers*).

Numerous specimens of the present insect have been received from Costa Rica only. It may be separated from its allies by the uninterrupted sutural band, which has no spots or stripes attached to it, while a short vitta runs parallel with it from before to below the middle, and ends in a knob, another spot being placed below the base at its anterior part; this vitta is always free, and never attached to the suture; the lateral margins of the elytra are entirely without spots.

36. Calligrapha bajula.

Calligrapha bajula, Stål, Diagn. 1860, p. 461; Monogr. Chrys. Amer. p. 269[1].

Hab. Guatemala[1].

Stål compares this species to *C. serpentina*, but says that it is smaller and devoid of the elytral sutural vitta. I have not seen any such species in either M. Sallé's or Mr. Baly's collection, nor has the insect been met with by Mr. Champion.

ZYGOGRAMMA.

Zygogramma, Chevrolat in d'Orbigny's Dict. Hist. Nat. iii. 1843, p. 656.

This genus can only be considered a modified form of *Calligrapha*, which it resembles exactly in its principal structural characters, as well as in the peculiar arrangement of the elytral markings and the sculpture connected therewith. We meet, however, here with forms which are strangers in the latter genus in regard to the elytral designs, some species of *Zygogramma* exhibiting alternate stripes of dark and light colour of regular parallel shape, which are not found amongst those of the preceding genus, where a system of spots prevails. Where this latter occurs in the present genus, the claws united at the base to a greater or less degree will at once decide the proper place for the species, those belonging to *Calligrapha* having in all instances the claws widely and distinctly separated. *Zygogramma* extends throughout the entire American continent, Central America furnishing twenty-nine species. I cannot agree with Chapuis as to the position he has assigned to his *Zygogramma zetterstedti*, which has been, I think, rightly placed by Stål in the genus *Leptinotarsa*.

1. **Zygogramma nicaraguensis.** (Tab. XI. fig. 21.)

Greenish æneous below; antennæ and legs obscure rufous; elytra obscure testaceous, the suture split into two branches anteriorly, a stripe at the shoulder connected with the second branch, a spot near the scutellum, three others at the lateral margin, one below the other, seven spots below the middle, and a V-shaped mark near the apex obscure greenish æneous; claws united at the base.

Length 4½ lines.

Head finely punctured, flat, with a central finely impressed line; labrum and antennæ rufous, the last five joints of the latter widened, nearly as broad as long, opaque, the basal joints shining. Thorax transverse, of nearly equal width, the sides rather deflexed and slightly rounded; anterior angles acute, but scarcely produced; surface with a shallow fovea at each side below the anterior margin, finely and remotely punctured on the disk, the sides strongly punctate. Elytra elongate, moderately convex, of an obscure testaceous colour, with the darker marks also obscure, brownish or greenish æneous; of these, three are placed at the lateral margin, one before, one at, and the third below the middle, all of them of rather elongate shape; the stripe at the shoulder is of an elongate shape, extending to about one third the length of the elytra, and is divided posteriorly into two parts or branches, the inner one joining the sutural band at the side of its second division or branch; between this latter and the base a round spot is placed (in the figure this spot ought to have been isolated); three other spots of unequal shape are attached to the sutural band below the middle, the last of which forms a **U**-shaped mark near the apex; the rest of the disk near the sides is further occupied by two or three hook-like marks of irregular shape, for the most part attached to each other at one point or other.

Hab. NICARAGUA, Chontales (*Janson*).

This species, of which I have two specimens before me, has the usual markings of a species of *Calligrapha*, from which I must separate it on account of the structure of the claws, which are united at their base; the ground-colour of the elytra is greatly reduced in extent on account of the size and number of dark spots and stripes; the three narrow elongate spots at the lateral margin will separate it from somewhat similarly coloured species of *Calligrapha*, although I do not know of any species with which to compare it, the nearest approach to it being, perhaps, *C. intermedia*.

2. **Zygogramma quenseli.** (Tab. X. fig. 24.)

Calligrapha quenseli, Stål, Diagn. 1860, p. 462[1]; Monogr. Chrys. Amer. p. 280[2].

Hab. Mexico [1 2], Cordova, Santecomapan (*Sallé*).

On account of the claws in the present insect being united at their base, I have placed it in *Zygogramma*. The ground-colour of the elytra is dark testaceous; the oblique shoulder-spot has a short stripe attached to it near the suture; of the eleven or twelve spots which occupy the rest of the disk, one is placed in the centre of the lateral margin, preceded by another at the side of the shoulder-stripe; three or four larger spots in a semicircular position are placed below the middle, and four smaller ones in a square at the apex. A variety from Santecomapan has the entire head rufous, and the spots or stripes near the shoulder all confluent and attached to the suture, which is also the case with the spot below the middle. On the whole, there is some slight difference in the position of the spots in this specimen; but I believe that I am right in considering it a variety only.

3. **Zygogramma piceicollis.** (Tab. XI. figg. 23, 24, 25.)

Calligrapha piceicollis, Stål, Diagn. 1859, p. 322; Monogr. Chrys. Amer. p. 253[1].
Calligrapha aggregata, Stål, Diagn. 1860, p. 461; Monogr. Chrys. Amer. p. 252[2].

Hab. Mexico [1], Oaxaca, Las Vigas (*Höge*), Guanajuato (*Dugès, coll. Sallé*), Coscomatepec, Orizaba, Cuernavaca, Capulalpam, Yolos (*Sallé*), San Luis Potosi (*Dr. Palmer*); Guatemala, Volcan de Agua, Capetillo, Dueñas, San Gerónimo (*Champion*); Costa Rica (*van Patten*).

The numerous specimens which are before me, as well as the insect named by Stål *C. aggregata*, in Mr. Baly's collection, prove to me that the species is a very variable one, not only in regard to the elytral designs, but to its general shape; and I cannot admit Stål's *C. aggregata* as more than a variety of the present species in which the spots are broader and more confluent. Between this form and the true *Z. piceicollis* I have many intermediate specimens, which may represent other species. Normally marked specimens of *Z. piceicollis* (principally from Mexico) are of rather narrow and elongate shape, the elytral spots being thin, and the one below the middle near the suture representing a strong curve or hook; other specimens are much shorter and more convex, the spots thicker, and the curved one broken up into two, while in Stål's *C. aggregata* they attain their maximum size and are partly confluent. Of each of these forms a specimen is figured. The general colour of the insect varies from dark fulvous to greenish æneous, the elytra being testaceous or obscure fulvous.

4. **Zygogramma signatipennis.** (*Calligrapha signatipennis*, Tab. XIV. fig. 24.)

Calligrapha signatipennis, Stål, Diagn. 1859, p. 321; Monogr. Chrys. Amer. p. 252.
Calligrapha hieroglyphica, Klug, Dej. Cat. 3rd ed. p. 422.

Hab. Mexico, Oaxaca (*Höge*), Coscomatepec, Cordova, Orizaba, Guanajuato, Jalapa, Yolos (*Sallé*), San Luis Potosi (*Dr. Palmer*); British Honduras, river Sarstoon (*Blancaneaux*); Guatemala, San Gerónimo, Capetillo (*Champion*); Costa Rica (*van Patten*).

This is apparently a most common species in Guatemala, whence it has been received in great numbers, plenty of specimens having been also obtained by Herr Höge in Mexico. Although closely allied to *Z. piceicollis*, it may be at once distinguished from that species by the elongate and oblique shoulder-stripe, which is always connected with the sutural band near the middle; the colour of the body and thorax, as well as that of the elytral marks, is also constantly greenish black, and never fulvous or piceous as in *Z. piceicollis*. The species, on the whole, does not seem to be subject to variation in regard to the elytral spots, as, amongst more than a hundred specimens which I have before me, only one shows a greater extension of the dark marks than the rest.

5. **Zygogramma malvæ.** (Tab. XII. fig. 2.)

Calligrapha malvæ, Stål, Diagn. 1859, p. 322; Monogr. Chrys. Amer. p. 255 [1].
Calligrapha signifera, Sturm, Cat. 1843, p. 288 [2].

Hab. Mexico [1 2], Guanajuato (*Dugès, coll. Sallé*), Ventanas (*Forrer*).

This species seems to be confined to Mexico. The elytra have the parts near the sides unicolorous; a curved longitudinal vitta, thickened at the middle, and having a hook-like appendage at its end, extends from the shoulder to a short distance from the apex; it is connected with another short streak at the shoulder; an oval spot is placed near the scutellum, and three smaller ones posteriorly near the lateral margin. The colour of the body, legs, and thorax is greenish.

6. **Zygogramma dulcis.** (Tab. XII. fig. 1.)

Calligrapha dulcis, Stål, Diagn. 1859, p. 322; Monogr. Chrys. Amer. p. 251 [1].
Calligrapha lepida, Sturm, Cat. 1843, p. 288 [2].

Hab. Mexico [1 2], Juquila, Oaxaca, Cerro de Plumas (*Höge*), Playa Vicente (*Sallé*), Milpas, 5900 feet (*Forrer*).

Stål compares this species to *Z. signatipennis* in regard to shape; all the specimens which I have for examination, however, are shorter and more convex than in the latter species; the thorax and legs are more or less fulvous, with a slight greenish gloss. As in *Z. signatipennis*, there is an oblique band extending from the shoulder to the middle of the suture; below this band, and parallel with it, three spots are placed, and two others near the apex; these spots are sometimes more or less confluent; a narrow dark line is situated at the lateral margin from before the middle to the apex; in this character the species agrees with several others. A large specimen of this species, named *Calligrapha tritona*, and marked "type Stål," is contained in Mr. Baly's collection.

I am unable to find any such name amongst the species Stål has described, and must attribute the statement on the label of the specimen to an error.

7. **Zygogramma mexicana.** (Tab. XII. fig. 7.)

Obscure piceous or æneous; the last five joints of the antennæ black; elytra testaceous, the suture, an elongate shoulder-spot extending to the former, two spots near the scutellum, another below the middle near the suture, and twelve or fifteen smaller ones placed in irregular rows from the middle to the apex of each elytron obscure æneous or piceous.

Var. Head and thorax dark greenish æneous; elytra with the shoulder-spot shorter and not extending to the suture; the spots below the middle less numerous.

Length $2\frac{3}{4}$–$3\frac{1}{4}$ lines.

Head very finely punctured; antennæ with the last five joints thickened and transversely shaped. Sides of the thorax much rounded anteriorly, the anterior angles produced, surface finely and closely punctured at the middle, the sides strongly punctate; scutellum rather elongate, triangular. Elytra with two rows of punctures near the suture, limiting the dark band placed there; this latter protrudes in a thin branch at each side of the suture to nearly the base, and is slightly widened near the apex; three spots of irregular shape, but larger than the rest, are placed near it, one before, one at, and the third below the middle; the second of these spots is either connected with the elongate shoulder-spot or is free; a small spot, sometimes attached to the first sutural one, is also placed near the scutellum; the rest of the disk of each elytron is occupied by two or three very irregular rows of small spots, from ten to sixteen in number; the lateral margin is entirely without spots, but has an impressed dark line running parallel with it; elytral epipleuræ, as well as the underside and the legs, obscure æneous or dark fulvous with a metallic gloss.

Hab. Mexico, Ventanas, 2000 feet (*Forrer*).

Four specimens of the present species, which is closely allied to *Z. piceicollis*, are before me; it differs from the latter in the greater number of spots, which are placed in semiregular rows below the middle of the elytra; in the place of the band which accompanies the extreme lateral margin from the middle to the apex in *Z. piceicollis*, a dark impressed line runs *near* the lateral margin. The thorax in the present species, also, is much more transverse and greatly rounded anteriorly, which is not the case in the allied insect. In the present one the shoulder-spot is often divided into two, but in one instance these spots are not the same on both elytra; the dark line parallel with the lateral margin, however, is present in all specimens.

8. **Zygogramma lemur.** (Tab. XII. figg. 8, 9.)

Calligrapha lemur, Stål, Diagn. 1860, p. 460; Monogr. Chrys. Amer. p. 246[1].

Hab. Mexico[1], Juquila (*Sallé*), Cerro de Plumas (*Höge*).

Of this species a specimen named by Stål, from the collection of Mr. Baly, and several others from Mexico are before me. The insect seems to be subject to considerable variation, as several specimens from Mexico, collected by Herr Höge, show: these are of an obscure piceous colour, as well as the elytral markings, the latter being very dark greenish in the type. In its elytral designs the species is very closely allied to *Z. piceicollis*, especially some of its varieties; but on comparing the two forms it will be seen that the sutural band in *Z. piceicollis* is of equal width, and extends very

nearly to the base of the elytra; in the present insect this band is distinctly widened at a little distance below the base, while the rest of the disk below the middle is occupied by numerous small spots, which are sometimes more or less confluent. In general shape the species is larger, more convex, and broader; and the thorax is transverse, and as wide as the base of the elytra, which is not the case in *Z. piceicollis*. I may further add that in *Z. lemur* there are two (and often three) confluent spots at the shoulder, generally connected with the suture at the base.

9. **Zygogramma opifera.** (Tab. XII. figg. 10, 11.)

Calligrapha opifera, Stål, Diagn. 1860, p. 460; Monogr. Chrys. Amer. p. 246[1].

Hab. Mexico[1], Puebla, Tepanistlahuca (*Sallé*).

Both typical specimens, from Mr. Baly's and Deyrolle's collection, I have for examination, as well as two specimens from Puebla. The most characteristic design of the elytra is a broad longitudinal curved band from the shoulder to the middle, which is either so wide as to occupy nearly the entire anterior portion (with the exception of the sides, which are always spotless but have a narrow stripe from the middle to the apex at the extreme lateral margin), or is very narrow, but of the same shape, and frequently connected with the broad sutural band before and behind the middle. In some specimens this band predominates to such an extent as to leave only three small testaceous spots parallel with the suture—one at the base, the second before, and the third behind the middle. Between this variety and the one in which the vitta is narrow there are intermediate degrees; but two minute spots near the side, one at the middle, the other near the apex, seem to be constantly present.

10. **Zygogramma bigenera.** (Tab. XI. fig. 22.)

Calligrapha bigenera, Stål, Diagn. 1859, p. 322; Monogr. Chrys. Amer. p. 254[1].

Hab. Mexico[1], Toxpam, Cordova, Playa Vicente, Orizaba (*Sallé*), Oaxaca (*Höge*); Guatemala, Chacoj, Panima, Tamahu, Teleman, Purula (*Champion*); Nicaragua, Chontales (*Janson*, *Belt*); Costa Rica, Cache (*Rogers*).

This species seems to have less propensity to vary than many others, the numerous specimens which are before me from the above localities scarcely varying in their elytral designs. The insect is of short and convex form, with almost white or slightly yellowish-white elytra, with the dark markings brownish or greenish æneous; the sutural band is always connected before the middle with the shoulder-stripe by a thin branch which joins the latter, and below which four spots are generally placed parallel and at some distance from the lateral margin (the second of which is the largest, the others being very small); there is also in nearly all specimens a more or less distinct spot at the middle of the last punctured stria near the lateral margin. Thorax and legs are often obscure rufous or piceous. A specimen from Nicaragua is figured.

11. **Zygogramma popa.** (Tab. XII. fig. 13.)

Calligrapha popa, Stål, Diagn. 1860, p. 461; Monogr. Chrys. Amer. p. 248[1].

Hab. Mexico[1], La Parada (*Boucard, coll. Sallé*); Guatemala[1], Capetillo, Dueñas (*Champion*); Costa Rica[1].

As usual, this species varies in the colour of its body and elytral markings from piceous to greenish æneous. The elytra have the portion from the middle to the apex crowded with small spots, which do not extend, however, to the lateral margin; one or two larger spots are placed close to the scutellum, and an oblique, short, longitudinal band at the shoulder. I have, however, a single specimen from La Parada before me, in which this band is also divided into numerous spots, in which respect it resembles the following species, from which it may be distinguished by its usually more elongate shape and the unspotted lateral margin. A specimen from the collection of Sturm bears the label *C. multipunctata*.

12. **Zygogramma guttulosa.** (Tab. XII. fig. 12.)

Calligrapha guttulosa, Stål, Diagn. 1859, p. 322; Monogr. Chrys. Amer. p. 249[1].

Hab. Guatemala[1], San Gerónimo, Dueñas, Cerro Zunil (*Champion*); Costa Rica[1].

This is a species of a more convex shape and shorter than the preceding one, which it much resembles in the numerous small elytral spots which crowd the whole surface, and which, unlike those of *Z. popa*, extend close to the lateral margin; the short band at the shoulder is always absent in the present species. I have seen but six specimens, from Guatemala. Stål says that the suture of the elytra is testaceous; I find this is so in all the specimens before me, including a type from Mr. Baly's collection, the suture being of exactly the same colour as the spots.

13. **Zygogramma lentiginosa.** (Tab. XII. figg. 14, 15.)

Calligrapha lentiginosa, Stål, Diagn. 1860, p. 461; Monogr. Chrys. Amer. p. 249[1].

Hab. Mexico, San Luis Potosi (*Dr. Palmer*), Oaxaca[1], Yolotepec (*Sallé*).

Although, again, closely allied to the two preceding species, the present one may be separated by the purplish or æneous colour of its body and of the elytral spots, the latter of which are also larger and much less numerous. Several specimens from the collection of M. Sallé and Mr. Baly are distinguished by having a broad dark fulvous band from the base to the apex, occupying the disk of each elytron, of which Stål makes no mention; but in other respects there is not much difference from the other forms, although the number of spots varies greatly as well as their shape. A specimen collected by Dr. Palmer, and one from M. Sallé's collection, are figured.

The species is *not* the *C. clathrata* of Sturm, as given in Gemminger's catalogue.

14. **Zygogramma quinquevirgata.** (Tab. XII. fig. 21.)

Calligrapha quinquevirgata, Stål, Diagn. 1859, p. 326; Monogr. Chrys. Amer. p. 245 [1].

Hab. Mexico [1].

The type, formerly in the collection of Deyrolle, and which is figured, is of a dark blue colour; the elytra are testaceous, and have, besides the sutural band, two others of very regular shape and joined at their apex, placed on the disk of each elytron; of these bands the inner one is the widest, both are crowded with deeply impressed punctures; the lateral margin, as well as the epipleuræ, is blue also, the former having another narrow band running close to its edge from the middle to the apex. I have seen no other specimen but the type, now in the collection of Mr. Baly.

15. **Zygogramma æneo-vittata.** (Tab. XII. fig. 3.)

Calligrapha æneo-vittata, Stål, Diagn. 1859, p. 325; Monogr. Chrys. Amer. p. 245 [1].

Hab. Mexico [1], Puebla, Panistlahuca (*Sallé*), Guanajuato (*Dugès, coll. Sallé*).

Of this species I have Stål's type, formerly in the collection of Deyrolle, for examination; it agrees with a number of specimens from the above localities; the elytra, however, can scarcely be called *three-banded*, as described by Stål. In all the specimens, as well as in the type, there is only a narrow band placed near the suture and connected at its apex with a broad band near the lateral margin; this latter band is often notched at the middle, or interrupted partly by the ground-colour, as described by Stål; but in many specimens this is not the case, and the band is entire; none of these bands extend quite to the base of the elytra. Like many other species, the colour of the body and thorax varies from dark fulvous to greenish black. *C. læta*, Sturm, refers to another species, and is not synonymic with the present one, as stated in Gemminger's catalogue.

16. **Zygogramma conjuncta.**

Chrysomela conjuncta, Rogers, Proc. Ac. Phil. viii. 1856, p. 34 [1], t. i. fig. 9; Lec. Trans. Amer. Ent. Soc. ii. 1867, p. 57 [2].

Chrysomela, var. *pallida*, Bland, Proc. Ent. Soc. Phil. 1864, p. 71 [3].

Chrysomela, var. *stolata*, Suffr. Stett. ent. Zeit. 1858, p. 271 [4]; Stål, Mon. Chrys. Amer. p. 255 [5].

Calligrapha amœna, Sturm, Cat. 1843, p. 288 [6].

Hab. North America [1 2 3].—Mexico [4 5 6], Puebla (*Sallé*).

Allied to *Z. malvæ*, but at once to be distinguished by the testaceous thorax, which has a large triangular greenish-black or obscure dark ferruginous spot occupying the entire base and extending in a point to the anterior margin. Suffrian and Stål have described a variety, in which the first of the two longitudinal bands, which are joined posteriorly, is broken up into two or three spots, under the name of *Z. stolata*. The species often varies in this respect: the above-mentioned vitta is either entire or inter-

rupted. The underside and legs also vary from piceous or fulvous (immature?) to greenish black. A specimen in the collection of M. Sallé, and labelled by Sturm *C. amœna*, proves his *C. amœna* to belong to the present species, and not to *Z. guttaticollis*, as given in Gemminger's catalogue.

17. **Zygogramma amanda.**

Calligrapha amanda, Stål, Diagn. 1859, p. 322; Monogr. Chrys. Amer. p. 251[1].

Hab. Mexico [1].

I have not seen any species agreeing with the author's description, who compares the type to *Z. lepidula*, although the latter has no elytral stripes, except the sutural one, the present species being described as having three on each elytron, in which it would agree with *Z. ståli*, Jac. The direction of the stripes in the latter species, and the want of any spots, will prevent it being mistaken for Stål's species.

18. **Zygogramma guttaticollis.**

Calligrapha guttaticollis, Stål, Diagn. 1859, p. 322; Monogr. Chrys. Amer. p. 249[1].

Hab. Mexico [1].

As already mentioned before, *C. amœna*, Sturm, is not a synonym of this species, with which I am not acquainted, but refers to *Z. conjuncta*, Rogers.

19. **Zygogramma lepidula.** (Tab. XII. fig. 16.)

Calligrapha lepidula, Stål, Diagn. 1859, p. 322; Monogr. Chrys. Amer. p. 249[1].

Hab. Mexico, Oaxaca [1], Cordova (*Sallé*), Playa Vicente (*Höge*).

In this species the small elytral spots are placed parallel with the sutural and lateral margins, leaving the disk of the ground-colour; but often a number of small spots occupy the apex, and those near the lateral margin are confluent and form a longitudinal narrow band of variable length. The species is of a rather elongate shape.

20. **Zygogramma morbillosa.** (Tab. XII. fig. 17.)

Calligrapha morbillosa, Stål, Diagn. 1860, p. 461; Monogr. Chrys. Amer. p. 250[1].

Hab. Mexico, Oaxaca [1], Juquila (*Boucard, coll. Sallé*).

Specimens of this species, named by Stål, are contained in Mr. Baly's collection, a few others in that of M. Sallé. The description given by the author is rather unsatisfactory, inasmuch as he says nothing about the position or number of the elytral spots, so that it is almost impossible to recognize the species without the type. The insect is of a very convex shape, with the elytra of a more or less metallic golden hue, the latter colour occupying, however, but little of the disk, on account of the large-sized subconfluent spots. Of these a large round one is situated near the scutellum, and often

confluent with the very irregularly shaped sutural band; another somewhat curved and elongate broad spot is placed at the shoulder; below this latter several broad spots, placed transversely, and often confluent in an irregular way, extend to the suture, the outer one being generally connected with a short elongate streak near the lateral margin; near the apex, or rather at the posterior portion of the elytra, two to eight spots are to be seen, of such variable outlines that it is impossible to fix their shape, and differing in every specimen; the interspaces between them are very narrow in all of them, producing the effect of waved golden lines. The species seems to be confined to Mexico only.

21. **Zygogramma clathrata.** (Tab. XII. figg. 18, 19.)

Calligrapha clathrata, Sturm, Catal. 1843, p. 288.

Obscure piceous below; elytra testaceous, the suture, a longitudinal broad band irregularly sinuate at the sides, from the base to the apex, and several small spots at each side of the band black; lateral margins unspotted.

Var. The lateral margin of the thorax testaceous.

Length $2\frac{3}{4}$–$3\frac{1}{4}$ lines.

Head finely punctured; labrum, palpi, and the base of the antennæ obscure fulvous, the terminal joints of the latter transverse, gradually thickened, not longer than broad. Thorax transverse, the sides somewhat thickened, straight at the base, but gradually rounded near the apex; surface finely, sides strongly punctured. Elytra parallel, irregularly punctured on the disk, with two rows of punctures near the suture, the latter piceous or black, the sides irregularly dentate or sinuate, but widened near the base and apex; the disk of each elytron is occupied by a broad longitudinal band from base to apex, generally narrowed towards the middle and very irregularly sinuate at each side; between this band and the lateral margin several small spots are placed, the former itself being, however, unspotted, but having a row of piceous punctures running parallel to it; elytral epipleuræ piceous.

Hab. MEXICO, Oaxàca (*Höge, Sallé*).

A single specimen in M. Sallé's collection, and formerly in Sturm's, bears the latter author's label "*Calligrapha clathrata,*" which specific name I have adopted. The specimen labelled by Sturm differs from those obtained by Herr Höge in having numerous small spots placed between the band of the elytra and their sutural and lateral margins; but specimens of intermediate degrees, with but very few spots, are before me from Oaxaca, showing the species, like most others of the genus, to vary greatly in its elytral design; there is, however, always a narrow space visible of the ground-colour between the band and the suture, although in one specimen the latter is connected with this band in several places. The species bears some resemblance to *Z. opifera*, but may be at once distinguished by the want of the piceous stripe at the extreme lateral margin; the latter in the present species is accompanied, however, by a row of punctures more or less distinctly piceous. The specimen from the collection of Sturm is figured, as well as a variety from Oaxaca.

22. **Zygogramma ståli.** (Tab. XII. fig. 4.)

Zygogramma læta, Sturm, Cat. 1843, p. 288.

Dark æneous or purplish; palpi and three basal joints of the antennæ fulvous; thorax finely punctured, the

sides subfoveolate punctate; elytra with four testaceous longitudinal vittæ, the first and fourth joined at the apex, the two middle ones abbreviated.

Length 3–3¼ lines.

Head finely and rather closely punctured; antennæ piceous, the basal joints more or less fulvous. Thorax slightly widened from the base to the apex, the sides nearly straight, and rounded only near the anterior angles, the latter somewhat thickened and obtuse; surface remotely covered with fine punctures, the sides with some very deeply impressed punctures; scutellum smooth, greenish. Elytra with two rows of punctures near the suture, rest of the surface irregularly but strongly punctured, obscure dark æneous or piceous, each elytron with four testaceous stripes, the first sutural one joined at its apex to the lateral stripe, the second one extending from the base to two thirds the length of the elytra, the third one from before the middle to some distance from the apex; the epipleuræ and a narrow stripe from the middle to the apex at the lateral margin of the ground-colour. Underside and legs metallic greenish black; tarsi piceous.

Hab. MEXICO, Juquila (*Boucard, coll. Sallé*).

I cannot consider the present species a variety of *Z. æneo-vittata*, which it much resembles; in the latter the elytra have three testaceous bands only, which is also the case in *Z. quinquevittata*, while there are four bands on each elytron in the present insect; of these the first two near the suture are rather curved, the other two running more parallel with the lateral margin. If the yellow is taken as the ground-colour, the elytra have each three dark bands, all of which are joined at the apex, but not at the base, where only the two outer ones unite; the punctuation also is different, the dark bands in *Z. æneo-vittata* being limited at each side by a row of regular punctures, the latter being much more irregularly placed, and extending across the bands themselves in *Z. ståli*. Three specimens are before me, which do not show any difference, except in size; one of them is labelled by Sturm *Z. læta*.

23. **Zygogramma championi.** (Tab. XII. fig. 6.)

Zygogramma championi, Jacoby, P. Z. S. 1879, p. 781 [1].

Hab. GUATEMALA, Capetillo (*Champion* [1]).

Of this very distinct species (which cannot be confounded with any other, on account of the uniformly coloured dark æneous elytra margined with yellow) seventeen specimens were received from the above locality. While most of the specimens are of the colour described, some show a very small testaceous spot at the middle of the base of the elytra, almost as an indication of a stripe so frequent in this genus. Elytra and thorax are rather strongly and irregularly punctured, the latter, as usual, more finely on the disk than at the sides.

24. **Zygogramma ornata.** (Tab. XII. figg. 22, 23.)

Obscure cupreous below; antennæ and tarsi fulvous; thorax dark cupreous; elytra yellowish white, their epipleuræ, a sutural band, and a sinuate broad longitudinal stripe from base to below the middle cupreous.

Var. Elytra cupreous, the lateral margin narrowly, five small spots near the suture, and another at the sides yellowish.

Length 3–3½ lines.

Head closely and finely punctured; labrum fulvous; antennæ extending considerably beyond the base of the thorax, fulvous, the basal joints lighter, the last five joints gradually increasing in thickness, terminal joint longer than broad; sides of the thorax rather prominently widened anteriorly and much rounded there, the anterior angles moderately acute and produced, surface rather closely covered with fine punctures, those at the sides more strongly impressed; scutellum impunctate. Elytra substriate punctate near the suture, the rest irregularly punctured, yellowish white, with a sutural cupreous band narrowed behind and more or less distinctly dentate at each side below the middle; a longitudinal band of the same colour commences at the base near the shoulder, directed towards the suture as far as the middle from there in a more straight line towards the apex without reaching the latter, and much narrowed at its extremity; this band has the outer margin produced in a short tooth below the base, while the inner one is dentate near the middle and apex; elytral epipleuræ, as well as the underside, metallic cupreous. Legs dark fulvous or piceous, with a cupreous tint; tarsi lighter fulvous.

Hab. MEXICO, Cerro de Plumas (*Höge*).

This handsome species, of which sixteen specimens were obtained, seems allied in its coloration to *Z. championi*, which latter may almost be regarded as a variety of the present insect in which the dark cupreous colour so far predominates as to leave only the lateral margin yellow. I possess, however, of both species sufficient material to enable me to decide their specific value. In the present one the elytral band varies also greatly in width, and is often attached to the sutural one at those places where in normally coloured specimens it is dentate only. In the variety (which is also figured) the dark colour has so far extended as to leave only the indications of the lighter portions of the elytra in the shape of spots. In *Z. championi* the elytral margin is always regularly shaped and never indented by the cupreous portion below the base, as is constantly the case in *Z. ornata*.

25. **Zygogramma hypocrita.** (Tab. XII. fig. 20.)

Below, head, and thorax dark metallic green, antennæ and legs fulvous; elytra testaceous, the suture, two subsutural narrow longitudinal stripes, the outer one abbreviated, an angular short band at the shoulder, a spot at the middle of the lateral margin, and about eleven small spots at the outer half of the elytra greenish or purplish.

Length $3\frac{1}{2}$–4 lines.

Head finely punctured; antennæ with the last five joints much thickened, the two terminal ones longer than broad. Thorax of nearly equal width, the sides straight near the base, slightly rounded near the apex, the anterior angles acute, but scarcely produced; disk finely and rather sparingly punctured, sides more closely and strongly punctate, with an obsolete shallow fovea at each side; scutellum impunctate. Elytra convex, testaceous, a narrow sutural band slightly widened towards the base, and accompanied by a narrow stripe commencing directly below the base, and extending nearly to the apex, as well as another one of half the size of the second, and situated closely to it, but of rather curved shape, metallic green; near the shoulder a narrow angular stripe, and pointing inwards, extends to nearly the middle of the elytra; close to this stripe and parallel with the lateral margin six spots are placed, the former having another elongate spot in the middle at its extreme edge; at the posterior portion of the elytra four spots are situated and run parallel with those at the lateral margin from the middle to the apex; another spot is seen within the extremity of the outer curved stripe; epipleuræ metallic green.

Hab. GUATEMALA, Sabo (*Champion*).

This species, of which but two specimens were obtained, bears a curious resemblance

in its elytral pattern to *Calligrapha dislocata*, from which the claws united at their base, as well as the red legs and attennæ, at once separate it. Although the marking is very similar, the present insect has in addition the median marginal spot as well as the shoulder-stripe, both of which are absent in the other insect. In regard to the punctuation of the elytra, all the dark marks and stripes are regularly limited by rows of punctures, as is the case particularly with species of the preceding genus.

26. **Zygogramma gracilis.**

Below obscure greenish piceous; basal joints of the antennæ and the legs dark fulvous; thorax dark fulvous, rugose-punctate; elytra light testaceous, closely and strongly punctate, the suture fulvous; a narrow marginal and sutural line, two others at the disk and joined at their apex, and a short streak near the scutellum greenish æneous.

Length 3½ lines.

Head very closely punctured, dark fulvous, the base greenish æneous; last five joints of the antennæ thickened, a little longer than broad. Thorax transverse, the anterior angles but little produced and obtuse, sides slightly rounded, nearly straight at the base; surface closely rugose-punctate at the sides, much more finely and distantly punctured on the disk; scutellum fulvous, triangular. Elytra not widened behind, moderately convex, yellowish white, closely covered (especially near the sides) with irregularly distributed piceous punctures; the suture narrowly fulvous; close to and parallel with it runs a narrow greenish line from below the base to a little distance from the apex, at which place a short greenish stripe is attached to the sutural margin; close to the subsutural line a small thin streak is placed obliquely from the base to the first third of the elytra followed by two other equally thin lines, which run parallel with each other, and join at a little distance from the apex; their first or anterior half runs obliquely towards the suture; from there they follow a straight direction; a fifth line, joined at the base to the preceding one, runs at some distance and parallel with the lateral margin, the extreme edge of this latter being also of a dark green metallic colour; elytral epipleuræ testaceous at the anterior half, the rest piceous. Underside metallic greenish, with the abdominal segments more or less fulvous or piceous. Legs fulvous, the femora stained with greenish æneous; claws joined at their base.

Hab. MEXICO, Yolos (*Sallé*).

In the punctuation, and pattern of the elytra, this species is quite distinct from any other in this genus. Only a single specimen is before me.

27. **Zygogramma novemvirgata.** (Tab. XII. fig. 5.)

Zygogramma novem-virgata, Stål, Diagn. 1859, p. 319; Monogr. Chrys. Amer. p. 242[1].

Hab. MEXICO (*Sturm, coll. Sallé*). — AMAZONS (*coll. Jacoby, Baly*); BOLIVIA; BRAZIL[1].

The only specimen from the collection of M. Sallé, which I have before me, and which is figured, agrees so closely with Stål's type, which I have also for examination, as well as with several specimens from the Amazons region in my collection, that I must consider them all to represent one species. Stål himself has described six varieties, showing the species to be a very variable one; his type, from the collection of Deyrolle, is larger than the other specimens before me, and differs from the Mexican and other forms in having a greenish-blue thorax instead of a fulvous one, which is the colour of the Mexican specimen; but even here the lateral margins of the thorax are

testaceous, as well as the elytral epipleuræ anteriorly, the posterior portion of which, as well as the extreme lateral margin of the elytra, is piceous. There are four narrow longitudinal bands on each elytron, the outer three of which unite at the apex; the space between the first and second band is slightly wider than those between the others. The species seems to extend as far south as Brazil.

28. **Zygogramma magica.**

Calligrapha magica, Stål, Diagn. 1859, p. 322; Monogr. Chrys. Amer. p. 247.

Hab. Mexico.

According to the author's description, this species must be closely allied to *Z. dulcis*. The type, with which I am not acquainted, is contained in the Berlin Museum.

29. **Zygogramma disrupta.**

Chrysomela disrupta, Rogers, Proc. Ac. Phil. 1856, p. 34, t. 1. f. 10; Suffr. Stett. ent. Zeit. 1858, p. 271[2]; Stål, Monogr. Chrys. Amer. p. 256[3].

Hab. North America[1 2 3].—Mexico[3].

It is on the authority of Stål that Mexico is given as one of the countries inhabited by the present species. I have never seen a specimen from that locality, and doubt somewhat the correctness of Stål's quotation.

STILODES.

Stilodes, Chevrolat in d'Orbigny's Dict. Hist. Nat. iii. 1843, p. 656; Baly, Ann. & Mag. Nat Hist. ser. 3, iv. p. 58.

Deuterocampta, Erichs. Arch. f. Nat. 1847, p. 157.

Considerable confusion seems to prevail in regard to the genera *Stilodes* and *Deuterocampta*, which I do not see the necessity to separate, it being in fact impossible to draw a strict line between the numerous species which have been described as belonging to either genus by Stål, Baly, and other authors. The numerous types and specimens which I have before me admit of no strict separation; and I think it best to unite those from Central America, at least, under the older generic name of *Stilodes*. Chapuis also remarks that *Deuterocampta* is but feebly characterized, but says that the strong punctuation of the metasternal epipleuræ separates it from *Stilodes*. This is not at all the case with many species, *S. annuligera*, Erichs., for example, showing very strongly punctured epipleuræ, as well as many species at present placed in the same genus. *Deuterocampta*, on the other hand, has all the other structural characters to be found in *Stilodes*, most of which, however, will be found to vary to a smaller or greater degree, but, in my opinion, not sufficiently to separate those species hitherto placed in the two genera in question.

Stilodes has but few representatives in Central America; a great many species, however, are known from the more southern parts.

1. Stilodes atromaculata. (Tab. XIII. fig. 8.)

Deuterocampta atro-maculata, Stål, Diagn. 1859, p. 314; Monogr. Chrys. Amer. p. 177[1].

Hab. MEXICO[1], Playa Vicente, Misantla, Jalapa, Cerro de Plumas (*Höge*), Cordova, Santecomapan (*Sallé*); GUATEMALA, Cahabon (*Champion*).

The only specimen obtained by Mr. Champion differs in the following particulars from all the Mexican forms:—The thorax is more narrowed at the middle; and the elytra have the two posterior spots united into a transverse band; the anterior spot is of a more regular shape and less sinuate than is usually the case. The specimen from Playa Vicente is figured.

2. Stilodes flavicans.

Deuterocampta flavicans, Stål, Diagn. 1860, p. 456; Monogr. Chrys. Amer. p. 181[1].

Var. *hepatica*, Stål, Diagn. 1860, p. 456; Monogr. Chrys. Amer. p. 181.

Hab. MEXICO[1], Playa Vicente (*Höge*); PANAMA, Bugaba, 800–1500 feet (*Champion*).

Only a single specimen obtained by Herr Höge and another by Mr. Champion seem to prove this species to be rare, no specimens being contained in the collections of Mr. Baly or M. Sallé. Stål's description agrees perfectly with the specimens before me; from similarly coloured species the present one may be known by the remote and rather fine punctuation of the thorax, and by the punctures of the elytra, which are placed in regular rows near the sutural half, the other being very finely and irregularly punctate; the portion near the lateral margin is entirely impunctate. In the colour of the underside the Mexican specimen agrees with the description given by Stål; but the insect from Panama differs in having underside and legs of a bluish-black colour, in which respect it agrees with Stål's *D. hepatica*, which the author himself believes to be perhaps only a variety of the present species. There are certainly no other characters present, according to his description, to define it as a distinct species.

3. Stilodes modesta.

Black below; first five joints of the antennæ testaceous; head and thorax very closely punctured; scutellum black; elytra subregularly punctate-striate, the interstices partly finely punctured, dark fulvous.

Length $3\frac{1}{2}$–4 lines.

Head closely and finely punctured, with several obsolete depressions; jaws piceous; antennæ with the last five joints transverse, as broad as long, black, the basal joints testaceous. Thorax of nearly equal width, the sides very slightly rounded, the anterior angles scarcely produced and obsoletely rounded; surface moderately closely punctate on the disk, the punctures not much stronger than those on the head, the sides very closely and a little more deeply punctate; scutellum black, impunctate, its sides rounded. Elytra convex, the sides nearly parallel, but rounded towards the apex; each elytron with ten rows of moderately deeply impressed punctures, the first sutural one very short, those near the sides somewhat irregular and often disturbed by extra punctures, the fifth and following two rows approaching near the base, the eighth one

commencing below the humeral callus, and all the striæ meeting irregularly near the apex. Underside and legs black, shining, the last abdominal segments margined obscurely with fulvous; metasternal epipleuræ coarsely punctured; claws without teeth.

Hab. GUATEMALA, Zapote, Paso Antonio (*Champion*).

From *S. flavicans* this species is easily distinguished by the regularly punctate-striate elytra and the close punctuation of the thorax. *S. cælebs* may be separated by the smaller size, lighter colour, and different punctuation of its elytra.

4. **Stilodes cælebs.** (Tab. XII. fig. 25.)

Deuterocampta cælebs, Stål, Diagn. 1860, p. 457; Monogr. Chrys. Amer. p. 196[1].

Hab. MEXICO[1], Panistlahuca, Santecomapan, Cordova (*Sallé*); GUATEMALA, San Juan in Vera Paz, Panzos, Pantaleon, Zapote (*Champion*).

This seems to be a species of variable colour and punctuation; and it is impossible to say whether all the specimens contained in M. Sallé's collection and those obtained by Champion really represent one species only or not. Stål himself has described several varieties in which the underside varies from testaceous to black. The punctuation of the thorax seems, however, equally variable, as I have specimens distantly as well as closely punctured before me, and intermediate degrees equally numerous. The prevailing upper and under colour is a light yellowish brown; the punctured striæ on the elytra are still more regular than those of *S. modesta*, and the two outer ones are closer than the rest. In other specimens the tarsi and knees are black as well as the scutellum. The insect is of a more elongate and parallel shape than *S. modesta*, in which the two outer striæ on the elytra are equally distant with the rest, and the upper surface of a dark fulvous colour.

5. **Stilodes nigromarginata.** (Tab. XIII. fig. 1.)

Ovate, convex, black below; above obscure testaceous; thorax closely punctured, margined with black; scutellum black; elytra punctate-striate, the striæ irregular, the suture narrowly black.

Var. Underside and part of the tibiæ obscure piceous (immature?).

Length 3½–4 lines.

Head with a few fine punctures, testaceous, as well as the jaws, the apex of the latter piceous; antennæ black, the two or three basal joints testaceous, the terminal joints gradually thickened, slightly longer than broad, and extending beyond the base of the thorax. Thorax transverse, as broad as the base of the elytra, the anterior and posterior margins slightly produced in the middle; lateral margin rather regularly rounded, the anterior angles distinctly produced but not very pointed; surface closely covered with strong punctures, less crowded on the disk than on the sides, and a row of deeper punctures situated at each side of the posterior margin; the latter as well as the anterior one very narrowly black. Scutellum of the same colour. Elytra convex, testaceous, the disk more or less stained with obscure piceous, each elytron with ten rows of very distinct punctures, the first one very short, the others often waved and irregular, and disturbed by extra punctures; of these rows the second and third and the fourth and fifth unite at the base; the punctures near the apex are finer, and ends of the striæ all meet at that place. Elytral epipleuræ testaceous. Underside and legs black; claw-joint unarmed; metasternal epipleuræ rugose-punctate.

Hab. MEXICO, Jalapa (*Höge*).

Distinguished from *S. cœlebs* by the black underside and margins of the thorax, as well as by the less regularly punctured elytral striæ. Three specimens were obtained.

6. **Stilodes nigricollis.** (Tab. XIII. fig. 2.)

Oblong-ovate, black; thorax remotely punctured; elytra dark fulvous, finely punctate-striate, the sides irregularly punctured.

Length 4 lines.

Head very minutely punctured, black, as well as the palpi and the antennæ; the latter short, the last five joints transverse, distinctly broader than long; thorax of nearly equal width at the middle, the sides but slightly rounded towards the apex, surface very irregularly and distantly punctured, the sides scarcely more closely punctate than the disk; scutellum fulvous, impunctate; elytra of the same colour, each elytron with seven rows of fine but regular punctures, the first very short, those near the sides still finer and irregularly placed; metasternum slightly raised, its sides rugose-punctate; claws unarmed.

Hab. GUATEMALA, San Juan in Vera Paz (*Champion*).

At once to be separated from the preceding species by the black thorax, head, antennæ, and underside.

7. **Stilodes neptis.** (Tab. XII. fig. 24.)

Deuterocampta neptis, Stål, Diagn. 1860, p. 459; Monogr. Chrys. Amer. p. 340[1].

Hab. MEXICO[1], Playa Vicente (*Sallé*); GUATEMALA, Chacoj, Pantaleon, Paso Antonio, San Isidro (*Champion*).

The elytra in this species are strongly marked with ring-shaped and elongate spots at their interior or inner side in such a way as to reappear in a fainter degree on the outside, and in some specimens scarcely visible. All these marks are distinctly circumscribed or limited by punctures, the longest being placed close to a thin subsutural longitudinal stripe, the rest of the markings being of a more roundish shape. A well-marked specimen from Pantaleon is figured.

8. **Stilodes motschulskyi.** (Tab. XIII. fig. 4.)

Stilodes motschulskyi, Stål, Monogr. Chrys. Amer. p. 340[1].

Hab. CENTRAL AMERICA[1]; NICARAGUA, Chontales (*Janson*, *Belt*).

This is a species of very convex and rounded shape, not difficult to recognize, on account of the elytral design. As Stål gives the latter as obscure testaceous, the ground-colour as flavo-testaceous, it must have been an immature specimen which he had before him. All those which I have for examination have the elytral spots very dark fulvous: their shape and position agree with Stål's description; but in some specimens the central spots form a dentate transverse band and unite with the sutural spots; in others this band is broken up into two spots. The thorax in this species is rather finely punctured, and the sides are almost smooth and impunctate.

9. **Stilodes leoparda.** (Tab. XIII. fig. 6.)

Fulvous below, as well as the thorax, the latter deeply punctate near the sides, disk finely punctured; elytra punctate-striate, testaceous, two sutural spots, a crescent-shaped mark below the base, three large spots placed triangularly below the middle, and a small spot at the lateral margin below the base dark fulvous.

Length 3½–4 lines.

Head extremely finely punctured; antennæ very gradually widened at the terminal joints, the latter as broad as long, somewhat triangularly shaped, entirely fulvous; thorax shaped like the preceding species, very finely and rather sparingly punctured at the disk, deeply punctate near the lateral margin and the base; elytra regularly punctate-striate, testaceous, with a large fulvous spot placed across the suture at the middle, and a smaller one near the apex, also common to both elytra, rest of the suture narrowly fulvous; an almost ring-shaped mark, but open at its anterior portion, is placed at the base, touching the latter with its outer portion; opposite it a very small spot is situated close to the lateral margin, while three large spots in a triangular position occupy the rest of the disk below the middle, the one nearest the apex being of a more elongate shape than the others.

Hab. NICARAGUA, Chontales (*Belt*); PANAMA, Bugaba (*Champion*).

Distinguished from *S. motschulskyi* by the strong punctuation at the sides of the thorax and by the spots of the elytra, which are of different shape and position.

10. **Stilodes panamensis.**

Fulvo-testaceous, convex; thorax remotely and finely punctured; elytra striate-punctate, testaceous, the sutural and lateral margins, a broad hook-like mark from the base to nearly the middle, and a large round spot below the latter obscure fulvous.

Length 3¼ lines.

Head with a few fine punctures; antennæ gradually thickened at the terminal joints, entirely fulvous; thorax of the same shape as in the preceding species, finely and remotely punctured, not more strongly at the sides than at the disk; elytra strongly striate-punctate, the first stria very short, the fifth and sixth closely approached near the base, all the punctures much finer at the apex; sutural and lateral margins narrowly fulvous; each elytron with an elongate spot at the base of nearly the same shape as in *S. pardalina*, but larger and extending further downwards, fulvous, and another spot of the same colour of regularly rounded shape below the middle. Claw-joint simple; metasternal epipleuræ rugose-punctate.

Hab. PANAMA (*Boucard, coll. Jacoby*).

The single specimen in my collection, although closely allied to *S. leoparda*, differs so much in the pattern of its elytra and the punctuation of the thorax, that I have no doubt about its specific distinction.

11. **Stilodes ståli.** (Tab. XIII. fig. 5.)

Ovate, convex, light fulvous; thorax finely and evenly punctured; elytra testaceous, regularly punctate-striate, each elytron with seven spots (3, 2, 2).

Length 3 lines.

Head entirely impunctate; antennæ with the terminal joints gradually thickened, slightly longer than broad, entirely light fulvous; thorax finely and rather closely punctured, not stronger on the sides than on the disk; elytra rather strongly and very regularly punctate-striate, testaceous; the suture narrowly and seven spots on each elytron dark fulvous; of the latter, three of narrow and elongate shape are placed transversely below the base, two large roundish spots at the middle and two others near the apex; of these last, the outer spot is very elongate, of triangular shape, and runs parallel with the lateral margin; underside fulvous; claws unarmed; metasternal epipleuræ rugose-punctate.

Hab. PANAMA, Bugaba, 800 to 1500 feet (*Champion*).

Closely allied to *S. motschulskyi* in regard to shape and colour, but at once separated by the position of the spots and the want of those at the sutural margin; the thorax is also much more closely punctured in the present insect. Four specimens were obtained.

12. **Stilodes fuscolineata.** (Tab. XIII. fig. 3.)

Chrysomela fuscolineata, Stål, Monogr. Chrys. Amer. p. 340[1].
Stilodes chapuisi, Jacoby, P. Z. S. 1880, p. 169[2].

Hab. CENTRAL AMERICA[1]; NICARAGUA, Chontales (*Belt*); PANAMA (*Boucard*), Bugaba, 800 to 1500 feet (*Champion*).

The description given by Stål of this species agrees very nearly with the specimens from Nicaragua, which I considered at the time to be specifically distinct. Since then more specimens have been received from Panama, which all differ from the Nicaraguan insects in having the elytral stripes entire and not interrupted, but do not differ materially in other respects. It is therefore highly probable that these are but local varieties. The specimens described by me as *Stilodes chapuisi* have the elytral punctuation rather more irregular than Stål's description demands, and were therefore considered by me distinct; but as they agree in other respects (principally in the interrupted elytral stripes, as given by Stål), I think it as well not to make of it another species. A Nicaraguan specimen is figured.

13. **Stilodes pallidipennis.** (Tab. XIII. fig. 7.)

Oblong, parallel, black; head with two yellow spots; thorax light yellow, with a **W**-shaped mark; elytra obscure fuscous, each elytron with four longitudinal thin lines, more or less curved, and the lateral margin light yellow.

Length 4 lines.

Head black, very minutely punctured, the base occupied by two large round yellow spots; last joint of the maxillary palpi broadly transverse, larger than the preceding one, its apex truncate; antennæ dilated and thickened, from the sixth to the terminal joints black, the three basal ones fulvous below; thorax scarcely widened, transverse, the sides but little rounded towards the apex, surface nearly impunctate, with only a few deep punctures near the sides; the yellow ground-colour interrupted on the disk by a **W**-shaped black mark, the outer ends of which have another bidentate stripe attached to it, which runs parallel with the lateral margin; scutellum yellow, margined with black; elytra of an obscure light fuscous, each elytron with four longitudinal very thin bands of a light yellow colour, but here and there spotted with black; of these lines, one runs close and parallel with the suture from base to apex, the second parallel with the first, but abbreviated near the apex, the third is of the same length, but curved inwards at the middle of the disk, the fourth interrupted posteriorly, but also curved parallel with the preceding one; all these lines have their interior more or less marked with black, and are limited at each side with very distinctly impressed punctures, the interstices of the elytra being closely and rather finely punctate; the lateral and inflexed margin of the elytra also light yellow. Underside and legs black.

Hab. MEXICO (*coll. Jacoby*), La Parada (*Boucard, coll. Sallé*).

This curiously marked species, of which but two specimens are now before me, ought perhaps to be placed in a special genus on account of the shape of the maxillary palpi, which agree with *Zygogramma*. The simple claws, widely separated at their

base, forbid, however, to include the species in the latter genus. The palpi in different species of the same genus show occasionally a good deal of variation in these insects; and it is difficult to fix a limit, unless accompanied by other characters of a more constant kind; I have therefore thought it best to leave the present species in *Stilodes*. I must add, further, that the tibiæ in the insect before me agree with those of the genus *Leptinotarsa*, from which the totally different palpi distinguish it; so that it seems to be an intermediate form of several closely allied genera. The specimen in my collection is of a darker colour (light brown above) than the other, but agrees in all other respects.

LEPTINOTARSA.

Leptinotarsa, Stål, Öfv. af K. Vet. Ak. Förh. 1858, p. 475.
Myocoryna, Stål, ibid. p. 316.
Chrysomela, Stål, Monogr. Chrys. Amer. p. 154.
Doryphora, Rogers, Proc. Ac. Phil. viii. 1856, p. 30.

Leptinotarsa, although resembling in general appearance the preceding genus, was founded by Stål on the different comparative length of the palpi, in which the terminal joint is much shorter than the preceding one and truncate, and on the structure of the tibiæ, which show a more or less distinct groove, extending sometimes to half their length. This latter character, however, is in some cases almost obliterated, and nothing but the shape of the palpi, taken conjointly with the other characters, remains to identify the genus. The species seem entirely confined to North and Central America.

1. **Leptinotarsa cacica.** (Tab. XIV. fig. 23.)

Leptinotarsa cacica, Stål, Diagn. 1858, p. 475; Monogr. Chrys. Amer. p. 156[1]; Dej. Cat. 3rd ed. p. 421[2].

Hab. Mexico[1 2], Toxpam, Cordova, Orizaba (*Sallé*), Misantla, Cerro de Plumas (*Höge*).

There is a good deal of difference in size in this species, the females being much larger and more dilated posteriorly than the males. The species is contained in most collections, and easily recognized by the uniformly testaceous elytra, which have only the sutural and lateral margins narrowly bluish black. In the figured specimen a number of obscure spots have been drawn, which are only visible in specimens in which the elytra have through some cause been discoloured.

2. **Leptinotarsa chalcospila.** (Tab. XIII. fig. 9.)

Leptinotarsa chalcospila, Stål, Diagn. 1858, p. 476; Monogr. Chrys. Amer. p. 157[1].

Hab. Mexico[1].

Of the same size as *L. cacica*, but each elytron with from seven to ten spots placed

transversely. Only a single specimen (which is figured) is contained in the Sallé collection, two others in that of Mr. Baly. The species seems to be a rare one.

3. **Leptinotarsa lacerata.** (Tab. XIII. fig. 10.)

Leptinotarsa lacerata, Stål, Diagn. 1858, p. 476; Monogr. Chrys. Amer. p. 157[1].
Myocoryna höpfneri, Dej. Cat. 3rd ed. p. 421[2].

Hab. Mexico[1 2], Oaxaca, Playa Vicente (*Höge*), Peras, La Parada, Etla (*Sallé*).

A large and handsome species, apparently not uncommon in Mexico, and easily distinguished by the three deeply dentate black transverse bands on each elytron, if the flavous is taken for the ground-colour.

4. **Leptinotarsa heydeni.** (Tab. XIII. fig. 11.)

Leptinotarsa heydeni, Stål, Diagn. 1858, p. 475; Monogr. Chrys. Amer. p. 158[1]; Höpfner, Dej. Cat. 3rd ed. p. 421[2].

Hab. Mexico[2], Almolonga (*Höge*), Tanetza (*Sallé*).—Brazil (?)[1].

This species is as large as the preceding one, and distinguished by the six flavous large spots on each elytron, of which the middle one near the suture is sometimes confluent with the elongate spot near the lateral margin, thus forming a transverse dentate band. The dark ground-colour in the present insect is never black, as in *L. lacerata*, but always either bluish violet or green. Stål gives the Brazils as the "habitat;" but this is, without doubt, a mistake, all the specimens which have come under my observation having been obtained in Mexico; Chapuis makes the same observation.

5. **Leptinotarsa puncticollis.** (Tab. XIII. fig. 12.)

Ovate, purplish or blackish æneous below; above dark greenish or purplish blue; head and thorax extremely closely punctured; elytra very closely and rather strongly punctured, the interstices somewhat raised and smooth; each elytron with four subsutural small spots and two elongate lateral stripes flavous.

Length 7–8 lines.

Head closely covered with somewhat elongate punctures near the base and the sides; labrum and palpi black; antennæ extending below the base of the thorax, the basal five joints bluish black, shining, the rest opaque, pubescent, and a little longer than broad. Thorax of the same shape as *L. heydeni*, extremely closely covered with larger and smaller punctures, those at the sides scarcely larger than at the disk; scutellum very finely punctured at the base; elytra very convex, slightly widened towards the middle, punctured as in the preceding species, and with the interstices slightly raised and smooth, each elytron with a narrow elongate band from the base to the middle near the lateral margin, and a shorter stripe at the same place below the middle, flavous; four small spots, of which the second one is of a more transverse shape than the others, and of the same colour as the lateral stripes, run parallel with the suture in exactly the same position as in *L. heydeni*. Legs and underside as in that species.

Hab. Mexico, Sonora (*coll. Jacoby, Baly*), Ventanas (*Forrer*).

At first sight I was inclined to regard this species as a local variety of *L. heydeni*, in which the elytral spots have been reduced to a much smaller size. I have, however,

eight specimens of the present and a number of the preceding insect for comparison, and find no intermediate degrees between them. Yet this would not have induced me to describe the present form as new, had not the thorax shown a different punctuation in all the specimens from that of the allied species. In the latter the sides of the thorax are always and distinctly deeply punctate, while the disk shows comparatively few punctures; but in *L. puncticollis* the entire thorax is covered with minute and larger punctuation, scarcely, if at all, more strongly impressed at the sides, and the elytral spots, although placed in the same position as in *L. heydeni*, are of less than half the size. Lastly, the species is of larger size than the latter insect.

6. **Leptinotarsa zetterstedti.** (Tab. XIII. fig. 19.)

Leptinotarsa zetterstedti, Stål, Diagn. 1859, p. 316; Monogr. Chrys. Amer. p. 154[1].

Hab. Mexico [1].

I cannot agree with Chapuis in placing this species in *Zygogramma*. The claws, although approached at the base, are not united; the tibiæ have a distinct groove up to the middle; and the general shape of the insect, as well as that of the thorax, agrees perfectly with the other species of the genus, but in no way with *Zygogramma*. Stål made a division of the present species, for the sake of aid in its determination amongst the others. The species does not seem to be a common one: none were obtained by Herr Höge; and the collection of M. Sallé contains but a single specimen; another I have in my collection.

7. **Leptinotarsa modesta.** (Tab. XIII. fig. 13.)

Oblong-ovate, convex, greenish æneous or bronze-coloured; head finely punctured; thorax closely covered with larger and smaller punctures; elytra strongly punctured, the punctures arranged in irregular rows, the interstices aciculate.

Length $6\frac{1}{2}$-$7\frac{1}{2}$ lines.

Head minutely and closely punctured at the base, more strongly at the sides; palpi and antennæ black, the latter extending to about one third the length of the elytra; the first six joints shining, the rest opaque, closely pubescent and distinctly widened, but longer than broad; thorax transverse, of nearly equal width, the anterior angles very acute and produced into a short point; the sides rounded and irregularly sinuate; surface extremely closely covered with larger and smaller punctures, the former prevailing, especially near the sides; scutellum triangular, minutely punctured; elytra very convex, the sides parallel, not widened posteriorly; surface much more strongly punctured than the thorax, the punctures placed in very irregular rows, the interstices aciculate or scratched; inner margins of the elytral epipleuræ narrowly fulvous; tibiæ rugose-punctate, very obsoletely channelled at their outer surface; claws fulvous.

Hab. Mexico, Guanajuato (*Dugès, coll. Sallé*).

In size this species resembles *L. heydeni* and *L. puncticollis*. From these, as well as all other species of this genus, the present insect is separated by its uniform greenish-bronze colour. It cannot be considered a variety only of *L. puncticollis*, inasmuch as the elytral punctuation is quite different, and leaves no broader longitudinal smooth

interstices, as is the case in the last-named species. The three specimens contained in M. Sallé's collection are the only ones I have seen.

8. **Leptinotarsa dilecta.** (Tab. XIII. fig. 16.)

Leptinotarsa dilecta, Stål, Diagn. 1860, p. 456; Monogr. Chrys. Amer. p. 159[1].
Deuterocampta patruelis, Sturm, Cat. 1843, p. 287[2].

Hab. Mexico, Oaxaca[1 2], Yolotepec, Juquila, Puebla, Yolos, Cuernavaca, La Parada (*Sallé*).

Stål, who describes this species, does not give any particulars as to the position and direction of the five lines on each elytron, which it will be as well to add here. The first of these, commencing a little below the base and ending at a little distance from the apex, runs close and very nearly parallel with the suture, slightly approaching the latter towards the posterior half; the second line, commencing at the base, runs perfectly parallel with the first, and often joins the third and fourth lines at the apex; the third one begins, close to the preceding one, at the base, and, after following a nearly straight direction to the middle, curves outwards below the latter to a greater or smaller degree; the fourth line always commences below the shoulder, and makes a curve towards the lateral margin at the middle, where it is interrupted, and then continued again parallel with the others; the fifth line runs parallel with and very close to the lateral margin. All these lines finish at some distance from the apex of the elytra; and their interstices are occupied at the middle by single piceous spots, placed transversely, and sometimes assuming the shape of a narrow band. Thorax and underside are either metallic green, cupreous, or bluish. Legs and the base of the antennæ fulvous. The description given here is that of the normally coloured specimens described by Stål, and of which a typical one is contained in Mr. Baly's collection. Others are before me, which I must look upon as varieties, since they agree in all essential points but the colour. These specimens have only the base of the head metallic green; the thorax, scutellum, and the elytral stripes are fulvous or piceous; and in some the small spots on the elytra are absent. It is possible that these individuals are immature; a specimen of the latter colour, and formerly in the collection of Sturm, is labelled by him *D. striolata*. The figure is from an insect from Juquila.

9. **Leptinotarsa novemlineata.**

Leptinotarsa novemlineata, Stål, Diagn. 1860, p. 456; Monogr. Chrys. Amer. p. 160[1].

Hab. Mexico, Oaxaca[1], Juquila (*Boucard, coll. Sallé*).

A distinct species, and allied to *L. calceata*, from which it differs in the much more strongly punctured thorax and elytra, as well as in the colour of the longitudinal stripes on the latter, which are not black, but brown; they are sometimes connected with a transverse spot of the same colour placed in the middle of the first and second pair of

stripes. The body and thorax in the present species are of a more coppery colour, instead of blue or green, as in *L. calceata*. Besides four specimens contained in Mr. Baly's collection, I have seen but three others from Juquila.

10. **Leptinotarsa flavitarsis.** (Tab. XIV. fig. 12.)

Polyspila flavitarsis, Guér. Verh. zool.-bot. Ver. Wien, v. 1855, p. 606[1].
Leptinotarsa signatipennis, Baly, Trans. Ent. Soc. iv. p. 355, 1858, tab. 27. fig. 2[2].
Leptinotarsa flavitarsis, Stål, Diagn. 1858, p. 476; Monogr. Chrys. Amer. p. 161[3].

Hab. Mexico[2]; Guatemala[1 3] (*Sallé*), near the city, Zapote, Cerro Zunil (*Champion*); Nicaragua, Chontales (*Janson*, *Belt*); Costa Rica (*Sallé*).

Mr. Baly gives Mexico as the country inhabited by the present species, and a specimen in his collection is labelled accordingly; but I have not seen any others obtained there, all the specimens which have come under my observation having been collected at the places given above. The colour of the underside and thorax is either metallic dark blue or bright green; but the apex of the tibiæ and the tarsi are always light fulvous, which separates it from the following species.

11. **Leptinotarsa nitidicollis.**

Leptinotarsa nitidicollis, Stål, Diagn. 1860, p. 456; Monogr. Chrys. Amer. p. 161[1].

Hab. Mexico[1], Tuxtla (*Sallé*).

In coloration *L. nitidicollis* exactly resembles the preceding species, except in that of the tarsi and tibiæ, which are of the colour of the body. A closer examination reveals, besides this difference, several others. In general shape the present species is rather more convex and widened posteriorly, and the punctuation of the elytra is also much finer and less closely arranged; lastly, the elytral bands are thinner, and seldom continued, but nearly always interrupted at the middle. I have seen but few specimens, and those from one locality only.

12. **Leptinotarsa calceata.** (Tab. XIII. fig. 14.)

Leptinotarsa calceata, Stål, Diagn. 1858, p. 476; Monogr. Chrys. Amer. p. 160[1].
Leptinotarsa vittata, Baly, Trans. Ent. Soc. iv. 1858, p. 351[2]; Candèze, Mém. Liége, 1861, xvi. p. 392, tab. 6. fig. 2.

Hab. Mexico[1 2], Vera Cruz (*Sallé*), Misantla (*Höge*).

Great numbers of this species were obtained by Herr Höge at Misantla. In the flavous apex of the tibiæ and the tarsi of the same colour, the insect agrees with *L. flavitarsis*, but differs in the four narrow blackish stripes of the elytra; of these, the first one is placed near the suture, commencing directly below the base and finishing at a considerable distance from the apex; of the three following stripes the middle one is

slightly longer than the others, and often joined at the apex to the second stripe. As in the preceding species, the body and thorax are either metallic green or blue.

13. **Leptinotarsa obliterata.** (Tab. XIII. fig. 15.)

Doryphora obliterata, Chevr. Col. de Mex. 1833, fasc. 1[1].
Leptinotarsa subnotata, Stål, Diagn. 1858, p. 476[2].
Chrysomela obliterata, Stål, Monogr. Chrys. Amer. p. 162[3].

Hab. Mexico [1 2 3], Toxpam, Cordova (*Sallé*), Almolonga (*Höge*).

This species so completely resembles *L. nitidicollis*, except in the elytral design, in which the stripes are reduced to spots, that I have great doubt as to its specific distinctness; there are, however, no specimens before me with intermediate markings to make me sure on this point.

14. **Leptinotarsa pudica.** (Tab. XIII. fig. 25.)

Leptinotarsa pudica, Stål, Diagn. 1860, p. 456; Monogr. Chrys. Amer. p. 162[1].

Hab. Mexico [1], Cordova (*Höge*), Juquila (*Sallé*).

Smaller than *L. obliterata*, and similarly marked, but at once distinguished by the stronger, closer, and more irregular punctuation, the interior of the punctures being at the same time piceous. A specimen, obtained at Cordova by Herr Höge, differs from the normal forms in having five instead of four spots on each elytron, besides another one across the suture at the place where in the other specimens the sutural band is slightly widened. The spots in this specimen are also much larger than is usually the case; the extra spot is situated close to the first one below the base.

15. **Leptinotarsa signaticollis.** (Tab. XIII. fig. 20.)

Leptinotarsa signaticollis, Stål, Diagn. 1859, p. 317; Monogr. Chrys. Amer. p. 163[1].

Hab. Mexico [1], Izucar, Puebla (*Sallé*).

The elytra in this species are generally of a uniform testaceous colour, with the suture narrowly black, and the punctuation very irregularly distributed, with a slight tendency to arrangement in rows near the suture. I have besides these specimens, which agree with Stål's description, two others before me, formerly in Sturm's collection, and labelled by him *Chrys. nigropunctata*, which are much larger than usual (♀), and having the elytra crowded with innumerable and large punctures, which in one of them form a number of closely approximated longitudinal thick vittæ. The antennæ are also much shorter than in the males, and only extend to the base of the thorax. The very irregularly arranged punctures however, will, separate the present species from the following ones, even when the elytra show stripes as in the specimens just mentioned. The last joints of the antennæ in *L. signaticollis* are very thickened, and distinctly broader than long.

16. **Leptinotarsa decemlineata.** (Tab. XIII. fig. 24.)

Chrysomela decemlineata, Say, Journ. Ac. Phil. iii. p. 453[1]; Suffr. Stett. ent. Zeit. 1858, p. 245[2].

Doryphora 10-*lineata,* Rogers, Proc. Ac. Phil. viii. 1856, p. 30[3]; Suffr. Stett. ent. Zeit. 1858, p. 244[4]; Harold, Berl. ent. Zeit. 1874, p. 444.

Myocoryna multilineata, Stål, Diagn. 1859, p. 316; Monogr. Chrys. Amer. p. 164[5].

Hab. North America[1 2 3 4].—Mexico[5], La Parada, Toluca (*Sallé*), Cerro de Plumas, Misantla (*Höge*); Costa Rica (*coll. Sallé*).

There is not much doubt that this insect represents the ill-famed Colorado potato-beetle, although v. Harold thinks that several closely allied species may share this odium. Figures of the potato-beetle, published in America, which have come under my observation, at all events prove that it is Say's species which is meant for this destructive insect, which is distinguished from others, very closely allied, by the fulvous legs and underside, the abdomen being spotted with black at each side as well as the base of each segment, while the elytral epipleuræ are entirely fulvous. *L. juncta,* a very closely allied species, which differs in the larger size and the position of the elytral stripes, seems to be rarer, and confined entirely to North America, where it may possibly attack the potato-plant in company with the present species. The latter does not seem to extend further south than Mexico and Costa Rica, where its place is taken by another closely allied insect. From the former localities I have seen but very few specimens, and from Costa Rica but a single one.

17. **Leptinotarsa multitæniata.**

Myocoryna multitæniata, Stål, Diagn. 1859, p. 317; Monogr. Chrys. Amer. p. 164[1].

Hab. Mexico[1], Toluca, La Parada (*Sallé*), Cerro de Plumas (*Höge*).

The differences between this species and the preceding one, as pointed out by Stål, seem to me to be hardly sufficient for its validity; but without having the type to compare, it is not possible to come to a definite conclusion. I have, however, before me several specimens which agree very nearly or entirely with the author's description, and are intermediate between *L. decemlineata* and *L.* 11-*lineata,* and which I should have preferred to consider varieties of the first-named species on account of the spotted abdomen and the fulvous elytral epipleuræ. The specimens show, moreover, a good many differences amongst themselves in the shape as well as in the markings of the thorax, and incline to either of the species under consideration. In some of them the legs are half black and half red; and the elytral stripes resemble also either the preceding or the present species in the distance they are placed from each other.

18. **Leptinotarsa undecimlineata.**

Myocoryna 11-*lineata*, Stål, Diagn. 1858, p. 316; Monogr. Chrys. Amer. p. 163[1].

Hab. MEXICO[1], Misantla, Cerro de Plumas (*Höge*), Guanajuato (*Dugès, coll. Sallé*), Orizaba, Vera Cruz, Oaxaca, Tuxtla, Cordova (*Sallé*); BRITISH HONDURAS, river Sarstoon (*Blancaneaux*); GUATEMALA, Cubilguitz, El Reposo, San Gerónimo, Purula, Tamahu, Dueñas, Capetillo (*Champion*); NICARAGUA, Chontales (*Janson, Belt*); COSTA RICA[1], Volcan de Irazu (*Rogers, Van Patten*).—COLOMBIA[1]; BOLIVIA[1].

The entirely blackish-green underside, legs, and elytral epipleuræ, which are constant in the very numerous specimens which have been received principally from Mexico and Guatemala, distinguish well the present species from *L.* 10-*lineata*. Stål gives Bogota and Bolivia as localities inhabited by *L.* 11-*lineata*; it is therefore more than probable that it may be found as well in the State of Panama. Two curiously marked specimens from Mexico, which I take to be varieties, have come under my notice. In these specimens only the *margins* of the elytral bands are indicated by fine black lines, the intermediate spaces being of the ground-colour, so that in fact each elytron shows eight fine longitudinal lines. In other respects the specimens show but little difference from the normal ones.

19. **Leptinotarsa defecta.** (Tab. XIII. fig. 21.)

Myocoryna defecta, Stål, Diagn. 1859, p. 317; Monogr. Chrys. Amer. p. 165[1].

Hab. NORTH AMERICA, Texas[1].—(?) MEXICO[1] (*coll. Jacoby*), Yucatan[1] (*Sallé*).

Specimens of this species have the general appearance, with respect to their coloration, of immature examples of *L. decemlineata* in which the elytral stripes have been prevented from becoming perfectly developed; a closer examination proves, however, that the species is no doubt a distinct one. Stål only describes the thorax as spotted and exactly resembling in its markings that of *L. decemlineata*. The elytra, however, are differently punctate-striate. In the last-named species the third stria (counting the short sutural one as the first) joins the suture at some distance below the middle; in the present insect the corresponding stria continues to the apex. The elytral markings will be better understood by reference to the figure. Stål gives Texas as one of the localities inhabited by this species. I have only seen specimens from Mexico, and find no reference to the species inhabiting North America in either Rogers's or Crotch's monograph of North-American Phytophaga.

20. **Leptinotarsa melanothorax.** (Tab. XIII. fig. 22.)

Myocoryna melanothorax, Stål, Diagn. 1859, p. 317; Monogr. Chrys. Amer. p. 166[1].

Hab. MEXICO[1], Toluca, Puebla (*Sallé*), Guanajuato (*Dugès, coll. Sallé*).

Easily distinguished from the preceding species by the entirely black head and thorax; the third and fourth elytral black stripes are sometimes united.

21. **Leptinotarsa dahlbomi.** (Tab. XIII. fig. 23.)

Myocoryna dahlbomi, Stål, Diagn. 1859, p. 317; Monogr. Chrys. Amer. p. 166[1].

Hab. North America, Texas[1].—Mexico[1], Yolos, Puebla (*Sallé*), Yucatan[1] (*Pilate. coll. Sallé*); Nicaragua, Granada (*Sallé*).

This species does not seem to be common in Mexico, to which country it is principally restricted. It has not been met with by Mr. Champion in Guatemala; nor by Janson or Belt in Nicaragua, whence a single specimen is contained in the collection of M. Sallé. I may add to the description given by Stål, that the sides of the thorax are crowded with strong punctures, and that the yellow elytral stripe is distinctly narrowed at the shoulder, where it is of only half the width of the rest. The commencement of the sutural stripe, however, is widened immediately below the base in all the specimens before me.

22. **Leptinotarsa haldemani.**

Doryphora haldemani, Rogers, Proc. Ac. Phil. 1856, viii. p. 30[1]; Suffr. Stett. ent. Zeit. 1858, p. 248[2].

Hab. North America[1 2].—Mexico[2], Ventanas (*Forrer*), Puebla, Cuernavaca (*Sallé*), Almolonga (*Höge*).

According to Suffrian the present species is one of four which, although distinguished by very obscure differences, yet he believes to be distinct. Amongst more than a hundred specimens which are before me, on account of the great variability of the insects I am unable to agree with Suffrian, and can only distinguish, at the most, two species, though, if I were to take these slight differences into account, I might easily multiply the species to six or eight. Since most of the specimens which I have for examination were obtained in different yet in limited localities, and still show variation, I must conclude that the species is a very variable one.

L. haldemani is perhaps the only one which is easier to recognize than the rest on account of its black head and thorax (the only species in which these parts are of this colour); but shape and punctuation are as variable as in the others, and so many intermediate forms are before me that I cannot be certain to which species in Suffrian's sense I am to refer them. A specimen of the present insect, contained in Mr. Baly's collection, and named by Dr. Horn, agrees also with the description given by Suffrian; others from different parts of Mexico agree with this specimen in the black and opaque colour of the head and thorax, and also in the shape of the latter, which is more straight and concave at each side near the base than in the other species; but the punctuation shows all degrees from minute and distant to close and more strongly impressed punctures. There may in reality exist but one species, which point, I think, can only be settled by resident entomologists.

23. Leptinotarsa libatrix.

Doryphora libatrix, Suffr. Stett. ent. Zeit. 1858, p. 248[1].

Hab. MEXICO[1], Cordova, Almolonga, Jalapa (*Sallé*, *Höge*); GUATEMALA[1], Cerro Zunil, El Reposo, El Tumbador, Volcan de Atitlan, Zapote, Las Mercedes (*Champion*).

In comparing this species with *L. haldemani* I find that the only appreciable difference consists in the more convex and rounded shape of the present one, the rather more transverse and narrower thorax, and the more metallic colour of the upper surface, which is a bright green. The punctuation is as variable as in *L. haldemani*. I refer the present insect to Suffrian's *L. libatrix* on account of one of the localities given by him being Guatemala (his other species being referred to Mexico only), and also because the insect agrees in general with his description.

24. Leptinotarsa chlorizans.

Doryphora chlorizans, Suffr. Stett. ent. Zeit. 1858, p. 248[1].

Hab. MEXICO, Mazatlan[1].

I merely refer to this and the next species, as I have not seen the types; but I have no doubt that they both represent but slight variations of *L. libatrix*.

25. Leptinotarsa litigiosa.

Doryphora litigiosa, Suffr. Stett. ent. Zeit. 1858, p. 248[1].

Hab. MEXICO, Mazatlan[1].

26. Leptinotarsa violacescens.

Myocoryna violacescens, Stål, Diagn. 1859, p. 317[1]; Monogr. Chrys. Amer. p. 168[1].
Leptinotarsa violacea, Sturm, Cat. 1843, p. 287[2].

Hab. MEXICO[1 2], Orizaba, Cordova, Almolonga, Tuxtla (*Sallé*, *Höge*).

Except in its general colour, which, as its name implies, is a uniform dark violaceous, this species differs in no respect from *L. libatrix*. It is equally variable in the sculpturing of its upper parts, and is, in my opinion, not specifically distinct. I have before me a specimen named by Stål and another by Sturm from the collections of Mr. Baly and M. Sallé respectively. One of these specimens is of a silky opaque colour and extremely finely punctured; the other (named by Stål) is of a more metallic lustre, and more distinctly punctate, in which it agrees with others before me from Mexico. The more I examine all the specimens the more clear it is to me that no reliance can be placed, in this case, on punctuation or colour for specific distinction, and also, but to a less degree, in shape. I think nothing is gained by considering these uncertain characters specific distinctions.

27. **Leptinotarsa rubiginosa.**

Doryphora rubiginosa, Rogers, Proc. Ac. Phil. viii. 1856, p. 30[1]; Suffrian, Stett. ent. Zeit. 1858, p. 245[2].

Chrysomela rubiginosa, Stål, Monogr. Chrys. Amer. p. 168[3].

Hab. North America[1].—Mexico[3], Mazatlan[2], Alvarez Mountains (*Dr. Palmer*), Ciudad, Milpas (*Forrer*), Guanajuato (*Dugès, coll. Sallé*), Puebla (*Sallé*).

Of a uniform yellowish brown, with the exception of the antennæ, palpi, scutellum, and legs, which are black. The thorax is extremely finely punctured on the disk; and the punctured subgeminate striæ of the elytra are also very finely impressed. Stål describes the thorax as being marked sometimes with a black discoidal spot. Such specimens I have never seen; nor does Rogers or Suffrian refer to this character. The latter author thinks that the colour of this insect ought to be called a "brick-red," with which I cannot agree, the description, "yellowish brown," given by Rogers expressing perfectly the proper colour of the species. A specimen, formerly in the collection of Sturm, is labelled by him *D. nigripes.* I have not seen more than about a dozen specimens, all of them having been obtained in Mexico.

28. **Leptinotarsa ståli.** (Tab. XV. fig. 1.)

Ovate, convex, greenish black; labrum and the basal joints of the antennæ testaceous; thorax minutely punctured; elytra closely subgeminately punctate-striate, yellow, the suture, an elongate large spot from the middle of the base, a transverse dentate band below the middle, a narrow line attached to it posteriorly, a sutural spot below the middle, and another small spot anteriorly, near the lateral margin, dark cupreous or greenish black.

Length 4 lines.

Head distinctly and rather closely punctured; palpi obscure piceous; antennæ with the last five joints transverse, piceous, the first three joints and the apex of the following two testaceous. Thorax greatly deflexed at the sides, the posterior margin distinctly produced towards the middle, the sides nearly straight, and only slightly rounded near the apex, surface very finely and rather closely punctured, a little more distantly on the disk, of a metallic dark greenish colour; scutellum triangular, impunctate, greenish. Elytra much more strongly punctured than the thorax, the punctuation arranged in double rows near the suture, more irregularly towards the sides; the colour is a bright yellow, a sutural band from the base to the apex, slightly narrowed towards the latter, and connected with a broad mark, which extends from the base to nearly the middle of the elytra, at which place it is greatly widened, greenish or dark cupreous; another transverse band of the same colour extends across the suture below the middle; this band is much narrowed towards the suture, and its margins are dentate or irregular, while a narrow dark line attached to its outer margin extends nearly to the apex, and runs parallel with the lateral margin; the band just mentioned commences with a small hook-like process, which is directed towards the lateral margin; a very small spot is further placed near the latter below the shoulder; and another short transverse spot extends across the suture below the middle. Underside greenish black; tarsi dark fulvous, stained with piceous; elytral epipleuræ testaceous at their anterior half, the rest black.

Hab. Mexico, Puebla, Izucar (*Sallé*).

Of this distinct and well marked species, two specimens are contained in the collection of M. Sallé.

29. **Leptinotarsa flavopustulata.** (Tab. XIII. fig. 17.)

Calligrapha flavopustulata, Stål, Diagn. 1860, p. 460; Monogr. Chrys. Amer. p. 169[1].

Hab. GUATEMALA[1], San Juan in Vera Cruz, Chacoj (*Champion*).

The type of this species, contained in the collection of Mr. Baly, was originally placed by Stål in the genus *Calligrapha*; the distinctly channelled tibiæ, however, make it advisable to transfer the insect to the present genus, where it is also put in Gemminger's catalogue. Two other specimens have been obtained by Mr. Champion, which vary from the type in being of a dark fulvous colour, with the exception of the elytral spots, which are the same. One of these is figured, which makes a detailed description of the spots unnecessary.

30. **Leptinotarsa belti.** (Tab. XIII. fig. 18.)

Stilodes belti, Jacoby, P. Z. S. 1879, p. 782.

Hab. GUATEMALA, Chacoj, Panima (*Champion*); NICARAGUA, Chontales (*Belt*).

For the same reason, having the tibiæ sulcate, this species had better find its place here. In structural characters it is identical in every respect with the preceding species; and in spite of the totally different design of its elytra, which is the same in the four specimens before me, I cannot help feeling some doubt as to whether they are not merely varieties of *L. flavopustulata.* It is true that no sign of any flavous spots exists here; if, however, the dark markings surrounding those of *L. flavopustulata* were interrupted in a certain way, a design like that found in the present species would be the result. At present, however, in the absence of intermediate marked specimens, I cannot but consider the species a distinct one.

31. **Leptinotarsa evanescens.** (Tab. XV. fig. 2.)

Calligrapha evanescens, Stål, Diagn. 1860, p. 460.

Chrysomela evanescens, Stål, Monogr. Chrys. Amer. p. 168[1].

Hab. GUATEMALA[1]; COSTA RICA[1].

Of this species I have seen only Stål's type, in the collection of Mr. Baly, and which is figured. The insect has not been met with by Mr. Champion or Mr. Rogers, and is no doubt rare. The thorax is crowded with smaller and larger punctures, the latter being specially numerous near the sides. The elytra also are very strongly and closely punctate near the sides, geminate punctate-striate near the suture. For their pattern, Stål's description and the figure must be compared.

32. **Leptinotarsa distinguenda.** (*Calligrapha distinguenda,* Tab. XIV. fig. 25.)

Calligrapha distinguenda, Jacoby, P. Z. S. 1877, p. 518[1].

Hab. GUATEMALA, Teleman, Chacoj (*Champion*); NICARAGUA, Chontales[1] (*Janson*).

Since this species was described by me, a number of others have been received from Guatemala. On account of the distinctly channelled tibiæ, I think the insect had better be placed in *Leptinotarsa*. The other characters agree with *Calligrapha* and *Stilodes*, with the latter genus in the partially punctate-striate elytra and the comparative length of the joints of the maxillary palpi. The figure, from a Chontales specimen, shows the posterior black spot of the elytra separated from the transverse band; in many specimens these are united, and form a crescent-shaped mark, open at its outer portion. Others, again, are entirely fulvous, or have the thorax and the underside greenish æneous, while in a few the black spots of the elytra are either entirely absent or indicated only by obscure fulvous.

33. **Leptinotarsa tlascalana.**

Leptinotarsa tlascalana, Stål, Diagn. 1858, p. 476; Monogr. Chrys. Amer. p. 158 [1].

Hab. Mexico [1].

I am not acquainted with this species, which in its design seems closely allied to *L. dahlbomi*.

34. **Leptinotarsa dohrni.** (Tab. XV. fig. 4.)

Below metallic greenish æneous; antennæ, the apex of the tibiæ, and the tarsi fulvous; head and thorax obscure cupreous, remotely punctured; elytra testaceous, geminately punctate-striate, covered with numerous smaller and larger blackish spots.

Length 4½ lines.

Head very finely punctured; labrum obscure fulvous; palpi and antennæ fulvous, the latter long, extending nearly to the middle of the body, the terminal joints gradually but very slightly thickened and much longer than broad. Thorax transverse, the sides much rounded from the base to above the middle, from there to the anterior angles obliquely cut, the latter acute but not prominent; surface rather remotely and very irregularly punctured, the punctures stronger than those on the head, but not more deeply impressed at the sides than on the disk; the latter irregularly depressed or flattened near the sides, cupreous, very narrowly margined with metallic green; scutellum of the same colour, broadly triangular, impunctate. Elytra very convex, slightly narrowed from the middle to the apex, somewhat irregularly but distinctly geminately punctate-striate throughout, of a dirty testaceous colour, with about ten rows of small blackish æneous round spots, placed more regularly near the sutural and lateral margins, and interrupted near the base and at the middle by larger confluent spots of the same colour, of which the largest is placed near the suture below the middle, at the sides of which a narrow oblique streak is placed, the outer end of which is thickened; the suture is also spotted from the base to nearly the middle with obscure æneous, the same colour occupying the interior of all the *impressed* punctures. The apex of the tibiæ, and the tarsi entirely, are fulvous; the former are obsoletely channelled; claws distant.

Hab. Mexico, Yolotepec (*Sallé*).

Of this curiously marked species, which exhibits all the characters of a true *Leptinotarsa*, only a single specimen is before me; it is very probable that the pattern of the elytra is subject to variation. I know of no species with which to compare it.

35. **Leptinotarsa högei.** (Tab. XV. fig. 3.)

Oblong ovate, dark cupreous; antennæ and tarsi dark fulvous; thorax distinctly punctured on the disk; elytra subgeminately punctate-striate, testaceous, a broad sutural and discoidal longitudinal band, as well as the extreme lateral margin of each elytron, cupreous.

Length 4–4½ lines.

Head extremely finely punctured, distinctly broader than long; labrum dark fulvous; maxillary palpi with the last joint nearly as long as the preceding one, the apex broadly truncate; antennæ elongate, extending to nearly the first third of the elytra, dark fulvous, the last six joints gradually widened but longer than broad. Thorax transverse, the anterior and posterior margins nearly parallel; the sides deflexed, much rounded near the anterior angles, the latter acute; surface rather finely punctured on the disk, the punctures placed distantly, more closely although scarcely more strongly punctured at the sides; scutellum triangular, impunctate, cupreous. Elytra scarcely wider at the base than the thorax, parallel in the male, more dilated in the female; the darker bands finely subgeminately punctate-striate, the lighter portions nearly impunctate, these latter of a yellowish or testaceous colour; the extreme lateral margin connected at the apex with a broad sutural band, the latter narrowed near the base, dark metallic cupreous; another longitudinal band of similar colour extends from the middle of the base to a little distance from the apex, the inner margin of this band is deeply concave at the middle, the outer one but slightly concave at the same place, and produced below that into a short straight tooth. Underside, the legs, and the elytral epipleuræ metallic cupreous; tibiæ obsoletely channelled towards their middle; claws simple, unarmed.

Hab. Mexico, Cerro de Plumas (*Höge*).

Ten specimens of this interesting species were obtained by Herr Höge. Although not quite agreeing in the comparative length of the joints of the palpi and the antennæ, the grooves of the tibiæ are, I think, sufficiently characteristic (though obsolete) to place the species in the present genus. In colour the insect bears a most striking resemblance to *Zygogramma ornata*, from which the widely separated claws and the punctuation of the thorax and elytra will at once separate it.

LABIDOMERA.

Labidomera, Chevrolat in d'Orb. Dict. univ. Hist. Nat. iii. p. 656 (1843).
Cryptostetha, Baly, Trans. Ent. Soc. iv. p. 350 (1858).

In this genus the meso- and metasternum is raised to a higher level than the prosternum, the apex having a transverse tuberculate appearance. The last joint of the maxillary palpi is transversely truncate and much shorter than the preceding one. *Cryptostetha* has been separated by Mr. Baly on account of the unarmed anterior femora; the female sex in *Labidomera* shows, however, the same structure, the teeth being peculiar to the male insect only. On that account it is better not to separate the genera, in which I follow also the arrangement of the Munich Catalogue. One species has been described from Central, the others principally from South America.

1. **Labidomera suturella.** (Tab. XV. figg. 5, 6.)

Labidomera suturella, Chevr. in Guér. Icon. Règne anim. p. 301 (1838) [1].
Labidomera suturella, var. *germari*, Chevr. loc. cit. p. 301 [2]; Stål, Monogr. Chrys. Amer. p. 143 [3].

Hab. Mexico [1 2 3], Cordova, Cosamaloapam, Orizaba, Puebla, Vera Cruz, Chiapas (*Sallé*); Guatemala (*Sallé*), Coban, Chiacam (*Champion*).

The present species occurs in several varieties in regard to coloration, which have been described by Chevrolat as two distinct species. Stål has given descriptions of three varieties. The entire insect is either of a purplish or greenish blue, with the elytra light flavous, the suture only being of a bluish colour, or each elytron having four flavous round spots on a metallic blue ground. Between these extremes different degrees of coloration occur, some specimens only showing the faintest indications of flavous spots, others having these latter joined so that the darker ground-colour appears in the shape of transverse bands which change from blue, as usual, to an obscure light brown in some cases. The species has not previously been recorded as inhabiting Guatemala.

2. **Labidomera clivicollis.**

Chrysomela clivicollis, Kirby, Faun. Bor.-Am. iv. p. 213 [1]; Rogers, Proc. Ac. Phil. 1856, p. 30 [2]; Suffr. Stett. ent. Zeit. 1858, p. 248 [3].

Chrysomela 3-*maculata,* Linn. Syst. Nat. ii. p. 592; Fabr. Ent. Syst. p. 95.

Hab. North America [1 2 3].—Mexico [3].

Whether this species really extends into Mexico remains to be seen, as I believe Suffrian to be the only author who mentions this locality [3]. No specimen from Mexico has come under my notice.

PROSICELA.

Prosicela, Chevrolat in d'Orbign. Dict. univ. Hist. Nat. iii. p. 656 (1843).
Labidosterna, Motschulsky, Schrenk's Reisen, ii. p. 182.

The long filiform antennæ, the terminal joints of which are not thickened, distinguish this genus principally from others of the present group. Not more than six species have been described, of which one inhabits Guatemala as well as parts of South America.

1. **Prosicela tibialis.** (Tab. XV. fig. 25.)

Obscure cupreous; antennæ, tibiæ, and tarsi fulvous; elytra obsoletely geminately punctate-striate, their epipleuræ and lateral margin, a spot near the scutellum, three others at the middle, and three elongate spots near the apex, as well as a narrow sutural line below the middle, flavous.

Length 4 lines.

Head finely and rather closely punctured; labrum fulvous; antennæ filiform, extending to two thirds the length of the elytra, the terminal joints very elongate. Thorax transversely convex, the sides very rounded and finely marginate, surface finely and rather closely punctured, longitudinally depressed near the sides.

Elytra more strongly punctured than the thorax, the punctuation arranged in irregular double rows, the interstices finely aciculate and slightly costate.

Hab. MEXICO, Yolotepec (*Sallé*).

The single specimen before me exactly resembles in coloration the spotted variety of *Doryphora sallæi*, from which the structural characters peculiar to the present genus at once separate it. I know of no species of the latter with which to compare the insect before me.

2. Prosicela signifera.

Prosicela signifera, Stål, Diagn. 1858, p. 474; Monogr. Chrys. Amer. p. 153[1].
Prosicela chevrolatii, Baly, Trans. Ent. Soc. 1858, p. 351[2].
Labidosterna semilineata, Motschulsky, Schrenk's Reis. 1860, ii. p. 182[3].

Hab. GUATEMALA[2].—COLOMBIA[1]; VENEZUELA[1 3]; PERU (*coll. Jacoby*).

I have not seen any other specimens from Guatemala than those contained in the collection of Mr. Baly.

3. Prosicela brevicollis.

Oblong-ovate, widened behind, metallic green; terminal joints of the antennæ and the palpi black; thorax finely punctured; elytra obsoletely punctate-striate, obscure testaceous, the suture, a longitudinal subsutural stripe, a shorter one from the base to the middle, and two oblique stripes at the sides, metallic green.

Length 4–6 lines.

Head convex, with a few fine punctures near the clypeus, metallic green; antennæ nearly half the length of the body, the last four joints black, distinctly longer than broad. Thorax short, scarcely twice as broad as long, metallic green, closely and rather finely punctured, with a small fovea at each side, the latter very slightly rounded and scarcely constricted near the base; scutellum broadly triangular, dark green. Elytra distinctly widened behind, very obsoletely and rather finely geminately punctate-striate, testaceous, the suture, a longitudinal subsutural stripe from the base to below the middle, a shorter one from the middle of the base to the middle of the elytra, and two other oblique short lines at some distance from the apex near the side of each elytron obscure greenish or bluish. Underside and legs metallic green.

Hab. GUATEMALA, Purula, Sabo (*Champion*).

In the elytral pattern and general colour the present species much resembles *P. signifera*; it is, however, of different shape, narrower at the base than that species; the thorax is much shorter and quite differently punctured, as well as the elytra, the latter further differing in the want of the sutural spots, which are here replaced by a single stripe. The female of the present insect is larger than the male, and the elytra are more strongly punctured. About a dozen specimens were obtained.

DORYPHORA.

Doryphora, Illiger, Mag. für Insekt. vi. p. 331 (1807).
Megistomela, Chapuis, Genres des Coléopt. xii. p. 398.
Trichomela, Chapuis, loc. cit. p. 399.
Dorysterna, Guérin, Verhandl. zool.-bot. Ver. Wien, v. p. 605.

The handsomely marked and, for the most part, large-sized species which constitute the present genus are all easily recognized by the peculiar elongation of the mesosternum, which protrudes in a more or less elongate process between the intermediate pair of legs. The other structural characters are for the most part constant, and offer no great variation, with the exception of the antennæ, which vary in shape and size at their terminal joints.

Of the numerous species, principally described by Stål, twenty are given as inhabitants of Central America; to this number more than as many again have been added lately, and are included below.

1. **Doryphora paykulli.** (Tab. XIV. fig. 16.)

Doryphora paykulli, Stål, Diagn. 1859, p. 305; Monogr. Chrys. Amer. p. 11 [1].

Hab. Mexico [1], Panistlahuca (*Sallé*); Nicaragua, Chontales (*Belt*, *Janson*).

In the ten rows of small black spots on the elytra this species resembles several from South America, but differs in the size of the thorax, which is scarcely twice as broad as long. The lateral margin of the elytra is spotless and not produced below the shoulder. Some specimens from Nicaragua differ from the normally coloured ones, with testaceous ground-colour of the elytra, in having these latter almost blood-red.

2. **Doryphora biremis.**

Doryphora biremis, Stål, Diagn. 1858, p. 470; Monogr. Chrys. Amer. p. 22 [1].

Hab. Costa Rica [1].

One of the typical specimens from M. Deyrolle's collection is contained in that of Mr. Baly. In its design of the elytra it agrees with *D. petulans*, but differs in the arrangement of the punctures, which in the present species are more distinctly geminate punctate-striate, the interstices being much broader, while in the allied insect they are covered everywhere with irregular dark punctuation. I cannot call the colour of *D. petulans* ferruginous, as Stål does; in all the specimens before me, as well as in the present species, the colour is a dark greenish black.

3. **Doryphora glomerata.**

Doryphora glomerata, Stål, Diagn. 1858, p. 253; Monogr. Chrys. Amer. p. 21 [1].

Hab. Panama, Veragua [1].

4. **Doryphora petulans.** (Tab. XIV. fig. 15.)

Doryphora petulans, Stål, Diagn. 1859, p. 305; Monogr. Chrys. Amer. p. 22

Hab. Costa Rica [1]; Nicaragua, Chontales (*Janson; Belt*).

A somewhat variable species. The elytra are much broader than the thorax (not

sufficiently indicated in the figure), and light or darker testaceous, covered with very numerous small black spots, each of which surrounds the impressed punctures. These latter are very irregularly distributed, for the most part united in pairs, which form semiregular rows well visible with the naked eye; below the base and immediately below the middle, the elytra are traversed by two black irregularly dentate transverse bands, which either extend quite to the lateral margin or are abbreviated at the sides. Stål describes these bands as being "æneo-ferrugineis," no doubt from an immature specimen; all those before me, to the number of ten, have black bands. The extreme lateral margin, as well as the elytral epipleuræ, are generally dark red or crimson-coloured; but in some specimens the colour is uniform with the rest of the surface. All, however, have at the inner margin a black spot, corresponding in its position with the first transverse band—that is to say, in a line with it.

5. **Doryphora panamensis.** (Tab. XV. fig. 11.)

Oblong-ovate, narrowed behind, greenish black; elytra obscure testaceous, a transverse band below the base, a round subsutural spot near the middle, and numerous minute spots at the disk, piceous.

Var. Smaller; elytra bright yellow, their epipleuræ red, interrupted below the base by a longitudinal black spot.

Length 6–7 lines.

Head remotely and rather finely punctured; antennæ greenish black, the basal joint testaceous below, terminal joints gradually widened and flattened, longer than broad. Thorax more than twice as broad as long, the sides nearly straight near the base, gradually rounded towards the anterior angles, the latter deeply concave behind the eyes, surface very little shining, irregularly and rather remotely covered with very distinct but not deeply impressed punctures, the sides a little more closely punctate; scutellum triangular, the sides slightly rounded, surface smooth. Elytra distinctly narrowed behind, convex at the base only, from there to the apex gradually deflexed, the disk subgeminately punctate-striate near the suture, the sides very irregularly and deeply punctured, all the punctures surrounded, as well as their interior, by piceous or black, the interstices also finely punctured here and there; a transverse band, narrowed and abbreviated at the sides, extends across the suture directly below the base, and is followed immediately below by a small round spot placed close to the suture; another elongate black mark is placed below the base at the inflexed margin of the elytra. The mesosternal process robust and slightly curved.

Hab. Panama (*Boucard, coll. Jacoby*), Volcan de Chiriqui, Bugaba (var.) (*Champion*).

In the shape of the elytra the present species somewhat resembles *D. circumflexa*, St., and allied forms, while their markings are not unlike *D. petulans* and several others. From the latter species the narrowed shape of the insect, the less rounded appearance, and the form of the band below the base in connexion with the isolated spot near the suture will at once distinguish it. A specimen from Chiriqui agrees entirely with one in my collection, but has the sides of the elytra stained with piceous, as if the black rings surrounding the punctures had united there. In the variety, the elytra are bright yellow, and their epipleuræ crimson-red, which colour spreads also along the extreme lateral margin, as is the case with some specimens of *D. petulans*. I may add, further, that in the last-named insect the interstices between the punctures of the elytra are always impunctate, which is not the case in *D. panamensis*.

6. **Doryphora insignicornis.** (Tab. XIV. fig. 17.)

Doryphora insignicornis, Stål, Diagn. 1858, p. 254; Monogr. Chrys. Amer. p. 30[1].

Hab. Mexico[1], Playa Vicente (*Sallé*, *Höge*).

Entirely of a very dark brownish cupreous, with the exception of the antennæ, which are light fulvous, the apical joint being black only.

7. **Doryphora pallidicornis.**

Obscure dark brown, subopaque; antennæ entirely flavous; thorax remotely and finely punctured; elytra minutely and closely punctate-striate.

Length 7 lines.

Head with very few and fine punctures; antennæ of the same length and shape as the preceding species, entirely flavous; thorax very finely and moderately closely punctured; elytra very finely and rather closely punctate-striate, the punctures almost disappearing near the apex, of a uniformly opaque dark brownish black.

Hab. Guatemala, Senahu (*Champion*).

Closely allied to *D. insignicornis* in coloration, but quite distinct on account of the very fine punctuation of the thorax and elytra and the uniform flavous antennæ. The two specimens obtained show an almost abnormal development of the left jaw, which is black and shining, much thickened and produced in front of the parts of the mouth. The punctuation of the allied species is well visible with the naked eye; in the present one this is not the case.

8. **Doryphora semiambita.** (Tab. XV. fig. 7.)

Doryphora semiambita, Stål, Diagn. 1858, p. 255; Monogr. Chrys. Amer. p. 30[1].

Hab. Mexico[1], San Andres (*Sallé*); Guatemala[1], Las Mercedes, Cerro Zunil, El Tumbador (*Champion*).

Stål's type from Guatemala in Mr. Baly's collection agrees in nearly all respects with the numerous specimens obtained by Mr. Champion; the elytra in the typical form, however, are more geminate-punctate than in the other specimens, which are strongly punctate-striate; and the thorax is scarcely so rounded at the sides. In all the specimens the punctuation of the elytra is very strong, and well visible with the naked eye.

9. **Doryphora subfastuosa.**

Below black; basal joints of the antennæ testaceous below; thorax brownish piceous, subopaque, finely punctured; elytra blackish brown, finely geminately punctate-striate, the basal and sublateral margin, the latter part of the suture, and a transverse short band at the middle of each elytron flavous.

Length 5 lines.

Hab. British Honduras, Belize, river Sarstoon (*Blancaneaux*); Guatemala, San Juan in Vera Paz, Cubilguitz, Senahu, Coban, Panima (*Champion*), Yzabal (*Sallé*).

This species so completely resembles *D. semiambita* at first sight, that it will only

be necessary to point out the differences between the two insects. In the present species the thorax is less shining and finely punctate; and although some specimens have a stronger punctuation, the latter is never deep, or almost rugose-punctate as in *D. semiambita*, in which this strong sculpturing can be well seen without a glass. The elytra in *D. subfastuosa* are marked and of the same colour as in the allied insect, with the exception that the transverse flavous band at the middle does not extend to the lateral band of the same colour, but is abbreviated, in which respect it resembles *D. purulensis*. In their punctuation the elytra in *D. subfastuosa* differ in being more distinctly geminate-punctate, the punctures being at the same time much finer, and not visible without a glass, the reverse being the case in *D. semiambita*. In all other respects the species are similar.

I would not, perhaps, have attached specific distinction to the present insect, which may possibly be only a local form of *D. semiambita*, had I only a single specimen for comparison; but I possess of both species many examples, which are all separated by the differences pointed out; moreover *D. subfastuosa* is from the Atlantic side of Guatemala, *D. semiambita* being from the Pacific and Mexico.

10. **Doryphora purulensis.** (Tab. XV. fig. 8.)

Very convex, ovate, piceous below, above dark chestnut-brown, shining, a spot near the scutellum, a band near the lateral margin, the posterior half of the suture, and a transverse short band at the middle flavous.

Length 4–5 lines.

Head very finely and closely punctured; antennæ black, the three basal joints fulvous, terminal ones gradually thickened, longer than broad. Thorax narrowly transverse, the sides much rounded anteriorly, surface finely and rather remotely punctured, shining. Elytra very convex at the first half, abruptly deflexed towards the apex, very finely punctate-striate, of a dark shining chestnut-brown, each elytron with a longitudinal band close to the lateral margin, a narrower one at the posterior half of the suture, and joined at the apex to the marginal band, a short transverse stripe at the middle, and a round spot near the scutellum at the base flavous. Mesosternal process robust and curved.

Hab. GUATEMALA, Purula (*Champion*).

Again very closely allied in colour to the two preceding species, and principally to the last, from which it may be distinguished by the much more polished upper surface, especially that of the thorax (which in *D. subfastuosa* is always opaque), the much finer punctuation of the elytra, and their more convex shape; the flavous band at the base of the elytra in the allied insects is here interrupted in the middle, so as to form a spot near the scutellum. Many specimens have been received, all of which show the above slight but constant differences from *D. subfastuosa*. More than twenty specimens were obtained at Purula.

11. **Doryphora bicolor.** (Tab. XIV. fig. 5.)

Doryphora bicolor, Jacoby, P. Z. S. 1877, p. 515[1].

Hab. NICARAGUA, Chontales[1] (*Janson, Belt*).

This, again, is a species similarly coloured to *D. semiambita* and *D. subfastuosa*, but may be known by the punctuation of the elytra, which is fine and distinctly geminate punctate-striate at the anterior portion, the rows uniting closer, and becoming simply punctate-striate towards the apex, where the interstices are very finely rugose and aciculate. The colour of the thorax and the head is very nearly black, and the general shape of the insect larger and less convex and rounded, while the elytra are also less shining, owing to the fine aciculate interstices between the punctures. I have four specimens before me, which agree perfectly with each other.

12. **Doryphora bella.** (Tab. XV. fig. 9.)

Doryphora bella, Baly, Trans. Ent. Soc. new ser. iv. 1858, p. 341[1].
Doryphora tricincta, Stål, Diagn. 1858, p. 471; Monogr. Chrys. Amer. p. 31[2].

Hab. MEXICO [1 2], Cordova (*Sallé*); GUATEMALA, Purula (*Champion*).

In the type and two other specimens from Mexico before me the dark colour of the elytra is interrupted at the base, the middle, and near the apex by three narrow dentate flavous bands, which extend to the similarly coloured band near the lateral margin; in two other specimens from Purula and Mexico respectively these transverse bands are interrupted at their outer ends; the punctuation of the elytra is also stronger and rather more irregular. But these differences are perhaps attributable to local influences.

13. **Doryphora lativittis.** (Tab. XV. fig. 10.)

Greenish black; thorax finely punctured, subopaque; elytra strongly punctate-striate, the interstices finely punctured, fulvous or flavous, the sutural and lateral margins, a broad transverse band before, another behind the middle, and the apex obscure piceous or blackish.

Length 5 lines.

Head flat, opaque, greenish, very minutely punctured, the clypeus more strongly punctate; antennæ with the first six joints shining, the first two joints testaceous below, the three terminal ones opaque, longer than broad. Thorax of nearly equal width, transverse, the sides straight near the base, rounded near the anterior angles only, the latter pointed but not much produced; surface of the same silky opaque colour as the head, remotely covered with fine punctuation not stronger at the sides than on the disk. Elytra broad, convex, and parallel, rather strongly and regularly punctate-striate, the striæ placed remotely, the interstices finely punctured, the punctuation very fine, and almost disappearing near the apex; obscure fulvous or flavous, the sutural and lateral margins as well as the extreme apex greenish black or piceous; a band of similar colour and very regular shape extends across the suture below the base towards the sides, where it is abbreviated at a little distance from the lateral margin; another band of the same size is placed below the middle, the ends of which are slightly narrowed and turned upwards. Mesosternal process robust and curved.

Hab. GUATEMALA, Senahu, Panzos, San Juan in Vera Paz (*Champion*).

In the design of the elytra this species completely resembles *D. bella*, and also closely *D. blanda*, Stål. I am compelled to separate it from the first on account of the many specimens I have for comparison, agreeing in every respect with each other. The insect is of broader and more robust shape than *D. bella*, the transverse dark elytral

bands are narrower, the fulvous spaces dividing them consequently broader, and their margins more regularly shaped. The thorax is distinctly more transverse, and has the same silky opaque appearance and fine punctuation as *D. subfastuosa*, in which it differs greatly from *D. bella*, which has a strongly punctured, nearly subrugose thorax. *D. blanda* is similarly marked, but the bands of the elytra are differently shaped, especially the second one, which is of an almost triangular pointed form, while the apex is but very narrowly marked with black.

14. **Doryphora mirabilis.** (Tab. XV. fig. 14.)

Doryphora mirabilis, Stål, Diagn. 1859, p. 307; Monogr. Chrys. Amer. p. 52[1].

Hab. MEXICO[1], Tuxtla (*Sallé*); GUATEMALA, Sabo, San Juan in Vera Paz, Senahu, Sinanja (*Champion*).

In some specimens from Guatemala the entire base of the head is black, and the two longitudinal bands of the thorax are very wide, almost occupying the entire sides. Stål describes these bands as spots; but in all the specimens before me, including some of the typical ones from the collection of M. Sallé, the thorax has two bands extending from the base to the apex, near which two small spots are placed at each side, one below the other. The elytra are greenish blue, with four oblong fulvous spots along the lateral margin, and three others, larger and more transverse, placed parallel with the suture. The mesosternal process in this species is very short. A Mexican specimen is figured.

15. **Doryphora marginalis.** (Tab. XV. fig. 15.)

Black below; head with a triangular testaceous spot; thorax flavous, with two longitudinal bands, connected at the base, black; elytra irregularly geminately punctate-striate, greenish æneous, the lateral margin (widened triangularly below the middle) and three subsutural spots flavous.

Length 5–5½ lines.

Of same shape as *D. mirabilis*. Head very finely and closely punctured, black, a large triangular-shaped spot between the eyes testaceous; labrum testaceous, spotted or margined with black; antennæ black, the basal joint testaceous below, terminal joints gradually widened, longer than broad. Thorax twice as broad as long, the sides rounded and slightly widened before the middle, somewhat narrowed near the base, the anterior angles not pointed but produced, surface irregularly covered with strong punctures remotely placed; at each side near the middle a broad longitudinal black band extends from base to apex, at which latter place they are joined; and this is also the case, to a less extent, near the anterior margin; so that these bands include an oval-shaped space of testaceous; scutellum blackish, impunctate. Elytra regularly convex, with about ten rows of double punctures irregularly placed, the punctuation becoming confused and close near the apex; the ground-colour is a dark greenish æneous, with the lateral margin narrowly fulvous; this colour is widened below the middle into a triangular-shaped spot; three other spots are placed parallel with the sutural margin: of these the first is situated below the base, near the scutellum, and is of rounded shape; the second, of transverse form, occupies the middle; while the third is common to both elytra, and ends in an elongate point near the apex. Underside and legs black. Mesosternal process very short.

Hab. GUATEMALA, Cerro Zunil (*Champion*).

The narrow flavous margin of the elytra, want of the extreme apical spot, and the

black underside and legs distinguish this species well from *D. mirabilis*. The punctuation of the elytra also is quite different. Two specimens were obtained, one of which is figured.

16. **Doryphora spectanda.** (Tab. XIV. fig. 7.)

Doryphora spectanda, Stål, Diagn. 1858, p. 469; Monogr. Chrys. Amer. p. 43[1].

Hab. GUATEMALA, Las Mercedes, Mirandilla (*Champion*); NICARAGUA, Chontales (*Janson*, *Belt*, *Sallé*); COSTA RICA[1], Volcan de Irazu, Cache (*Rogers*).

The specimens which are before me from the above localities are no doubt to be referred to Stål's species, with which they agree in every respect according to the author's description. The insect is of large size, above either metallic green or blue, but without much gloss, each elytron having two fulvous transverse dentate bands, two spots at the base, and another at the apex. The bands are either entire or separated into spots. The thorax in the male insect is dilated and broader than the elytra. A specimen from Nicaragua is figured.

17. **Doryphora decemstillata.** (Tab. XIV. fig. 21.)

Doryphora decemstillata, Stål, Diagn. 1858, p. 254; Monogr. Chrys. Amer. p. 39[1].

Hab. MEXICO[1], Cordova, Santecomapan, Cosamaloapam (*Sallé*), Cerro de Plumas (*Höge*); GUATEMALA, Senahu (*Champion*).

This large-sized species is easily known by its uniform dark greenish or bluish colour and the ten fulvous spots on the elytra. A single specimen was received from Guatemala, which differs from the Mexican forms in its more finely punctured elytra and thorax, but agrees in all other respects. The figure representing the insect is too short, and the last spot at the apex of the elytra is absent.

18. **Doryphora princeps.**

Doryphora princeps, Gray, Griff. Anim. Kingd. p. 149, t. 67. f. 6[1]; Stål, Monogr. Chrys. Amer. p. 53.

Doryphora magnifica, Stål, Diagn. 1860, p. 455; Monogr. Chrys. Amer. p. 336[2].

Doryphora superba, Perty, Delect. anim. 1832, p. 106[3].

Hab. MEXICO[2], Cosamoloapam (*Sallé*); BRITISH HONDURAS, river Sarstoon (*Blancaneaux*); GUATEMALA (*coll. Sallé*).—BRAZIL[3]; BOLIVIA[1].

This large and handsome species is a most variable one in regard to coloration as well as to its sculpturing, which induced Stål to separate, as specifically distinct, his *D. magnifica*, in which the entire disk of the thorax is greenish æneous, and the elytra rugose-punctate. I have, however, many intermediate forms before me, in which the two bands of the thorax show all intermediate degrees of distinctness, from being well separated to becoming united, the sculpturing of the elytra being equally variable, so

that I cannot but consider them all specifically identical. In his diagnosis of *D. princeps*, Stål describes the elytra as three-banded; this is evidently a mistake, each elytron having but two, transverse, narrow, undulated bands, which is also the case in a typical specimen in the collection of Mr. Baly and named by Stål himself. These bands vary in width, but are never very wide. The colour of the thorax is sometimes entirely fulvous without any bands, at other times even entirely æneous without any fulvous; and the elytra are either blue or green, finely or rugose-punctate; so that scarcely two specimens are exactly alike. The species has also a very wide geographical distribution.

19. **Doryphora diagonalis.** (Tab. XV. fig. 13.)

Doryphora diagonalis, Stål, Diagn. 1858, p. 256; Monogr. Chrys. Amer. p. 51[1].

Hab. Mexico[1], Playa Vicente, Cordova (*Sallé*), Misantla, Jalapa (*Höge*).

A dozen specimens were obtained by Herr Höge. One of these is figured.

20. **Doryphora æneo-ornata.** (Tab. XV. fig. 12.)

Doryphora æneo-ornata, Stål, Diagn. 1858, p. 471; Monogr. Chrys. Amer. p. 52[1].

Hab. Mexico[1], Cordova (*Sallé*), Jalapa (*Höge*).

Very closely allied, in the design of the elytra, to the preceding species, but quite distinct. In *D. æneo-ornata* the elytra are irregularly geminately punctate-striate, the suture is never flavous at its anterior portion, as is constantly the case in *D. diagonalis*, and the fulvous spot at the base is placed quite close to the scutellum. In the preceding insect the elytra are regularly and simply punctate-striate.

21. **Doryphora decorata.** (Tab. XIV. fig. 11.)

Doryphora decorata, Jacoby, P. Z. S. 1878, p. 992.

Hab. Costa Rica (*coll. Jacoby*).

Closely allied to *D. mirabilis*, but at once distinguished from that species by the geminately, not simply punctate-striate elytra and by their design, which consists of a basal and apical large fulvous spot, two others behind the middle, and a transverse band at the latter place. In the present insect the lateral margin from the base to the middle is metallic green, and without the fulvous spot seen in *D. mirabilis*; the species also much resembles *D. vittaticollis*, St.; but the elytral pattern is different. In the figure the apical spot is not indicated. Two specimens are contained in my collection.

22. **Doryphora ornata.** (Tab. XIV. fig. 9.)

Doryphora ornata, Jacoby, P. Z. S. 1877, p. 516.

Hab. Nicaragua, Chontales (*Janson*).

Amongst the transversely banded species the present one may be known by the

isolated black spot near the apex of the elytra. The latter resemble somewhat in their design *D. wallisi*, Steinheil; but the fulvous spots are of different shape, and the whole insect is more convex, the punctuation being also very different.

23. **Doryphora ocellata.** (Tab. XIV. fig. 4. *D. transversoplagiata*, Tab. XV. fig. 19.)

Doryphora ocellata, Jacoby, P. Z. S. 1878, p. 991.

Hab. Costa Rica (*coll. Jacoby*); Panama (*Boucard*), Volcan de Chiriqui (*Champion*).

It is very probable that the single specimen in my collection is but an immature form of the preceding species, from which it differs in its pale fulvous (instead of black) colour, the four thoracic small æneous spots, and the shape of the lateral basal spot, which is not pear-shaped as in *D. ornata*, but rounded. In other respects it resembles the latter. The species figured as *D. transversoplagiatus*, which I believed at first to represent a distinct species, must be united with the present one, as a close examination of the specimens lately received proves. These are varieties of darker colour, with the fulvous bands more or less interrupted.

24. **Doryphora sheppardi.**

Doryphora sheppardi, Baly, Trans. Ent. Soc. iv. 1858, p. 343, t. 27. fig. 6[1].
Doryphora divisa, Stål, Diagn. 1858, p. 253; Monogr. Chrys. Amer. p. 18[2].

Hab. Mexico[2], Cordova (*Höge*, *Sallé*), Santecomapan (*Sallé*); British Honduras, river Sarstoon (*Blancaneaux*); Guatemala[1], Volcan de Atitlan, Cerro Zunil, El Reposo, Pantaleon, Mirandilla, Zapote, Sinanja, Senahu, Coban (*Champion*); Nicaragua, San Lorenzo (*Janson*).

This species does not seem to be uncommon in Mexico and Guatemala. The broad elytral transverse band and triangular spot and in consequence also the yellowish-white bands which separate the darker parts are subject to variation. The elytral epipleuræ have before the middle a dark æneous spot, which is a continuation of the transverse anterior band. In the single specimen from San Lorenzo, which I have before me, the thorax and legs are brownish piceous, the punctuation of the elytra is more remote and less deep, even fine near the apex, and the interstices are not transversely rugose, as in all the other specimens, but finely aciculate and flat. The same is also the case in regard to the thorax. Whether this specimen is the representative of another species I cannot decide without having others from the same locality to compare.

25. **Doryphora impar.** (Tab. XIV. fig. 10.)

Doryphora impar, Stål, Diagn. 1859, p. 307; Monogr. Chrys. Amer. p. 71[1].

Hab. Mexico[1], Cordova (*Sallé*).

Two forms of this species seem to occur. In the typical one the spots of the elytra are dark æneous, and separated as Stål describes them; in two other specimens before me these spots are united in the form of a broad transverse band of a dark chestnut-brown colour, which is also the ground-colour of the insect. This variety was not known to Stål. The shape of these bands and the dentation of their margins correspond so exactly with those of the spots in the type that I must consider these specimens varieties of the latter, especially as in one of them the elytral bands show a much more intermediate degree between the two forms. The variety agrees in all other respects with the normal-coloured specimens.

26. **Doryphora decens.**

Doryphora decens, Stål, Diagn. 1859, p. 307; Monogr. Chrys. Amer. p. 87[1].

Hab. PANAMA (*Boucard*), Bugaba (*Champion*); COLOMBIA[1] (*coll. Jacoby*).

This insect occurs in several varieties: in one the elytra are pale fulvous without any spots; in another each elytron has five large black spots (2, 2, 1) placed transversely. The unspotted form was the only one known to Stål. All together the insect varies in the following way:—

a. Black or blackish blue below as well as the head and thorax, the former with a triangular spot, the latter with sides narrowly fulvous; elytra pale brick-red. (Typical form.)

b. Thorax entirely blackish, without fulvous margin.

c. Below (with the exception of sides of the breast and the first four abdominal segments) and the legs testaceous; head and thorax of the same colour, the latter with two transverse black spots; elytra fulvous, two large spots at the base, two below the middle, and one near the apex black.

d. Thorax as in the type; elytra as in var. *c*.

All these forms scarcely differ in regard to their punctuation, which is very fine, and arranged in irregular double rows on the elytra, the lateral margins of which are impunctate. The antennæ have their apical joints very short and transverse; and the mesosternal process is also very short.

27. **Doryphora chontalensis.** (Tab. XV. fig. 17.)

Dark fulvous; thorax remotely punctured; elytra testaceous, regularly punctate-striate, the sutural and lateral margins, two spots before, two behind the middle, and another spot near the apex of each elytron dark fulvous.

Var. Thorax and elytral spots greenish black.

Length 3½–4 lines.

Head distinctly broader than long, with a few fine punctures; labrum testaceous; antennæ light fulvous, the terminal joints slightly and gradually thickened, longer than broad. Thorax narrowly transverse, the sides more or less rounded, surface distantly and rather finely punctured, fulvous, shining; scutellum of the same colour. Elytra very regularly and rather strongly punctate-striate, flavous or testaceous, the sutural and lateral margins narrowly fulvous, two elongate large spots, connected with each other and touching

the suture below the base, two others of the same shape below the middle, also joining the suture, and a large triangular spot near the apex dark fulvous. Underside and legs of the same colour. Mesosternal process short and conical.

Hab. NICARAGUA, Chontales (*Janson, Belt*).

In coloration and shape this species is closely allied to *D. eucosma*, from which the arrangement of the elytral spots sufficiently distinguishes it. The thorax varies a good deal in the five specimens before me, being more convex and narrower and the sides more rounded in one instance than in the others, the punctuation also varying from few to many punctures, which, however, are never very closely placed.

28. Doryphora eucosma.

Doryphora eucosma, Stål, Diagn. 1859, p. 469; Monogr. Chrys. Amer. p. 72[1].

Hab. COSTA RICA[1]; PANAMA (*coll. Jacoby*).

Of this apparently rare species the type, contained in Mr. Baly's collection, is the only specimen besides a variety contained in my own which has come under my notice. In the insect from Panama, which is much larger than the typical specimen, all the darker parts have a metallic greenish gloss, and the elytral anterior marks vary in the following way: the elongate band from the base to the suture is connected with the latter not only behind the middle, as in the type, but also directly below the scutellum; and the large lateral spot is prolonged to the lateral margin below the shoulder: the spot below the middle also touches the margin at one point. In other respects the insects are the same. The lateral margin of the thorax in the present species shows a more or less distinct tendency to thicken, the thickened part being preceded by an obscure longitudinal groove, as so often seen in many European species of *Chrysomela*, but scarcely ever to be found in the insects of the present genus.

29. Doryphora biplagata.

Ovate, convex, bluish black; thorax strongly and remotely punctured; elytra subgeminately punctate-striate, each elytron with an elongate lateral spot at the base (including a small dark spot) and another oval one near the apex fulvous.

Length 5 lines.

Head closely and finely punctured; antennæ rather long, extending to nearly the first third of the elytra, the last six joints widened, slightly longer than broad, black, basal joint testaceous below. Thorax transverse, the sides flattened, the lateral margin much rounded towards the anterior angles, the latter acute, scarcely produced; surface remotely covered with rather deep punctures irregularly distributed; scutellum impunctate, broad. Elytra convex at their first third, thence to the apex rather suddenly declining, surface rather regularly subgeminately punctate-striate, the punctuation becoming more confused towards the sides, of a dark blackish blue; a pear-shaped fulvous spot extends from the base to nearly the middle of the elytra, and is placed nearer the lateral than the sutural margin; and, including a small bluish-black spot, another fulvous more oval-shaped spot is situated near the apex and close to the suture. Mesosternal process long and curved.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

The single specimen which was lately received from the above locality is quite distinct in the markings of the elytra from any with which I am acquainted, while in shape it approaches *D. insularis*, Jac., and many others.

30. **Doryphora geometra.**

Black below; thorax greenish black, opaque, remotely punctured; elytra subgeminately punctate-striate, testaceous, sutural and lateral margins, a large subtriangular patch below the base, connected with the suture, and another triangular band below the middle piceous.

Length 6 lines.

Head distantly punctured, greenish black, opaque; antennæ with the terminal joints distinctly longer than broad, black, apex of the last joint obscure fulvous. Thorax scarcely widened at the middle, the sides nearly straight, anterior angles produced into a short tooth; surface irregularly covered with remote but rather deep punctures, those at the sides rather more closely placed, opaque greenish black; scutellum elongate, greenish æneous. Elytra a little wider at the base than the thorax, more distinctly so behind the middle, rather convex near the base, from there to the apex subdepressed, very distinctly and rather regularly geminately punctate-striate, the punctuation more irregular and fine towards the apex, light yellow, the sutural and lateral margins narrowly piceous; a transverse subtriangular patch before the middle, and of the same piceous colour, joins the suture at the same place; the posterior margin of this patch is straight, the anterior one strongly angulate towards the base; another longitudinal band, of triangular shape, is placed below the middle: none of these marks touch the lateral margin, the posterior one being entirely isolated. Mesosternal process long and curved; elytral epipleuræ black.

Hab. Panama (*coll. Jacoby*).

I cannot compare the only specimen in my collection to any other species with which I am acquainted in regard to the elytral marking, the nearest approach to it being perhaps to be found in *D. æneo-ornata*.

31. **Doryphora rogersi.** (*Doryphora* 12-*guttata*, Tab. XIV. fig. 20.)

Light fulvous or flavous; last six joints of the antennæ black; elytra subgeminately punctate-striate, greenish æneous, each elytron with six large fulvous spots (1, 2, 2, 1).

Length $4\frac{1}{2}$–$5\frac{1}{2}$ lines.

Head very closely and finely punctured, generally with a thin central longitudinal groove; apical joints of the antennæ gradually thickened, longer than broad, black, the basal joints fulvous. Thorax with the sides rather strongly rounded near the anterior angles, the latter acute but scarcely produced, middle of the disk very remotely and finely punctured; the sides closely and strongly punctate, somewhat flattened; all the margins narrowly greenish æneous; scutellum broadly triangular, the apex acute, surface smooth, greenish æneous. Elytra of the same colour, closely and not very regularly geminately punctate-striate, a spot close to the scutellum, two larger ones of irregular shape before, two behind the middle, and another at the extreme apex of each elytron light fulvous or flavous. Underside and legs fulvous or varied with greenish æneous. Mesosternal process short and robust.

Hab. Costa Rica, Cache, Rio Sucio, Volcan de Irazu (*Rogers*).

The description given by Stål of *D.* 12-*guttata*, Fab., agrees so closely with the present species that I identified the latter at first with it; typical specimens, however, contained in the collection of Mr. Baly prove to me that the Costa-Rican specimens must be considered specifically distinct. In the elytral pattern the species resembles closely *D.* 12-*guttata*, but differs in the following way: all the spots at the elytra are much larger; consequently the greenish æneous spaces dividing them are much narrower;

the sutural spot near the scutellum is placed quite close to the suture, and is almost contiguous with the one on the other elytron: in *D.* 12-*guttata* this spot is much further removed from the sutural margin. The thorax in the present species is less narrow; the sides, instead of being finely punctured like the disk, as in *D.* 12-*guttata*, are strongly punctured. The metallic green colour of the upper surface in the latter species is much more brilliant than in *D. rogersi*. Of the eight specimens obtained by Mr. Rogers two show some slight variation in the size of the spots, which are larger than in the others and nearly confluent. The abdomen in one specimen, and part of the legs also, are obscure greenish æneous; but in all other respects the specimens agree. The large size of the spots will at once distinguish *D. rogersi* from other species similarly marked. The latter name must be substituted for the name on the Plate.

32. **Doryphora sallæi.** (Tab. XIV. fig. 14.)

Doryphora sallæi, Stål, Diagn. 1859, p. 308; Monogr. Chrys. Amer. p. 104 [1].

Hab. Mexico [1], Panistlahuca, Juquila (*Sallé*), Cerro de Plumas (*Höge*).

This seems to be one of the most variable species of the genus, of which more than sixty specimens were obtained by Herr Höge, and, although not differing much amongst themselves, are quite distinct from the description given by Stål as regards the elytral pattern, yet evidently represent the same species. In the type the elytra have the suture and four narrow longitudinal bands greenish æneous, as well as the lateral margin. In all the specimens from Cerro de Plumas the four elytral bands are interrupted at the base and below the middle by transverse patches of the same colour as the bands (generally greenish cupreous), in such a way that the latter are only visible in the middle and at the apex, with the exception of the sutural band, which is entire. The punctuation of the elytra is also much stronger than in the typical specimen from M. Sallé's collection; and the thorax is equally variable, some specimens having a shorter and wider thorax than others. Another variety before me shows no trace of any bands on the elytra, which are of a uniform testaceous or fulvous. The most constant characters seem to be the convex and greatly dilated form of the elytra behind, the testaceous spot at the base of the head, and the light fulvous colour of the tibiæ and tarsi, as well as the very short mesosternal process. The figure represents a normally coloured specimen from Mexico contained in my collection.

As the specimens from Cerro de Plumas agree in general with the typical forms, I prefer to consider them local varieties.

33. **Doryphora salvini.** (Tab. XIV. fig. 6.)

Doryphora salvini, Baly, Trans. Ent. Soc. 1864, ser. ii. p. 225 [1].

Hab. Nicaragua, Chontales (*Janson, Belt, coll. Jacoby*); Panama [1].

The specimen which served Mr. Baly for his type seems to be an immature one, as all the others before me are of a greenish æneous colour, having the elytral spots confluent in the shape of transverse deeply dentate bands. I have seen no other specimen from Panama than the type, and am therefore not able to say whether the form found at that locality occurs always like it. The specimens from Nicaragua are almost identical in the elytral design with *D. eudoxa*, Stål; but the shape of the bands and spots are slightly different at the shoulder and at the apex of the sutural margin.

34. **Doryphora boucardi.** (Tab. XV. fig. 20.)

Subelongate, black; thorax remotely punctured; elytra subgeminately punctate-striate, testaceous, three transverse narrow bands and some spots near the apex black.

Length 6–7 lines.

Head extremely finely punctured, opaque, black; antennæ with the last six joints flattened, slightly longer than broad, black. Thorax of equal width, distinctly narrower than the elytra, of an opaque silky-like appearance, very finely and remotely punctured throughout; scutellum triangular, black. Elytra moderately strongly geminately punctate-striate at the sutural half, irregularly punctured at the sides, testaceous; each elytron with three narrow irregularly dentate transverse black bands, one placed directly below the base, the second before, and the third behind the middle, all of them extending to the lateral and sutural margins; another short, curved, black stripe occupies the lateral margin close to the apex, and is preceded by two spots, of which one touches the suture. Elytral epipleuræ testaceous, a spot below the base and their apex black. Mesosternal process moderately long and curved.

Hab. PANAMA (*Boucard*).

In its narrow and elongate shape the species resembles *E. eudoxa*, Stål, also to a less degree in its elytral pattern. From all the known transversely banded species, the present one is distinguished by the position of the bands and their number. The specimen obtained by Mr. Boucard differs from one contained in my collection by the less opaque colour of its thorax and the more numerous punctures to be seen on the disk of the latter.

35. **Doryphora opposita.** (Tab. XV. fig. 21.)

Black; thorax finely and very remotely punctured; elytra finely punctate-striate, flavous, the sutural and lateral margins, an oblique band from the base to the suture, joined below the base to another longitudinal lateral band from the shoulder to nearly the apex, black.

Length 4 lines.

Head entirely impunctate, with a fine central longitudinal groove; labrum margined with testaceous; antennæ black, terminal joint obscure fulvous, the last five joints longer than broad. Thorax moderately convex, of nearly equal width, surface and the sides with a few fine punctures, shining black; scutellum of the same colour. Elytra finely and regularly punctate-striate, the space between the ninth and tenth striæ wider than the others, flavous, shining, the suture broadly, the lateral margin narrowly black; from the middle of the base a short oblique band, wider at its posterior portion, joins the suture at the middle; another, longer band runs parallel with and at some distance from the lateral margin, commencing at the shoulder, where it is connected with the other band, and ending at a little distance from the apex, at which place it is somewhat curved and directed towards the suture. Underside and legs black; last abdominal segment margined with fulvous. Mesosternal process very short.

Hab. PANAMA (*Boucard*).

36. **Doryphora uniformis.**

Below, the antennæ and the scutellum black; above rufous; thorax very finely punctured; elytra geminate punctate-striate at the sutural half.

Length $4\frac{1}{2}$ lines.

Head very minutely and rather closely punctured; labrum obscure piceous; apex of jaws black; antennæ extending to the first third of the elytra, black, the basal joint rufous below, the first seven joints shining, the rest, with the exception of the terminal joint, short, transverse, subquadrate; thorax about twice as broad as long, widened at the middle, the sides nearly straight and parallel, surface scarcely visibly punctured at the disk, a little more distinctly at the sides; scutellum broad, subovate, shining black; elytra slightly wider at the base than the thorax, rufous, like the head and thorax, finely geminate punctate-striate near the suture, the sides irregularly punctured; underside and legs black, with a slight greenish tint; mesosternal process very short.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

The single specimen obtained bears a close resemblance to *Leptinotarsa rubiginosa* in regard to colour. The structure of the mesosternum will of course at once distinguish it.

37. **Doryphora arangoi.**

Doryphora arangoi, Steinheil, Mittheil. ent. Ver. München, 1877, p. 43, tab. i. fig. 6[1].

Hab. GUATEMALA, Las Mercedes, Cerro Zunil (*Champion*).—COLOMBIA[1].

The dozen specimens obtained by Mr. Champion agree so closely with the figure given by Steinheil, and also for the greater part with his description, that I cannot but refer them to this species. The only differences that I find are, the finely punctured interstices of the elytral striæ, of which Steinheil makes no mention, and the shape of the sutural dark band, which in the Guatemalan insects is extremely narrow. The elytral second transverse band is either free as the author described it, or connected by a thin point with the suture.

38. **Doryphora flavoguttata.** (Tab. XIV. fig. 2.)

Doryphora flavoguttata, Jacoby, P. Z. S. 1878, p. 145[1].

Hab. COSTA RICA, Volcan de Irazu[1], Rio Sucio (*Rogers*).

But three specimens of this species have been received, the spots on the elytra of which are not flavous (as the name would indicate), but dark fulvous.

39. **Doryphora bisbimaculata.** (Tab. XIV. fig. 8.)

Doryphora bisbimaculata, Jacoby, P. Z. S. 1877, p. 518[1].

Hab. NICARAGUA, Chontales (*Janson*[1]).

In addition to the light fulvous patches of the elytra as represented in the figure, there is often another minute spot of the same colour visible near the apex. I have seen only four specimens from Nicaragua.

40. **Doryphora antennalis.** (Tab. XV. fig. 18.)

Doryphora antennalis, Jacoby, P. Z. S. 1877, p. 516[1].

Hab. NICARAGUA, Chontales[1] (*Janson*, *Belt*).

The antennæ in this species are rather filiform and longer than usually, and not much thickened. Five specimens were received.

41. **Doryphora dorsomaculata.** (Tab. XIV. fig. 1.)

Doryphora dorsomaculata, Jacoby, P. Z. S. 1878, p. 146[1].

Hab. NICARAGUA[1] (?).—BRAZIL (*coll. Baly*).

The specimen given to me by Mr. Rippon at the time of publication, I understood to have been procured at Nicaragua; but as I have never seen any other from that locality, and three specimens in Mr. Baly's collection all bear the label "Brazil," it is very probable that the latter country is the true locality of the species.

42. **Doryphora punctipennis.**

Doryphora punctipennis, Jacoby, P. Z. S. 1878, p. 145[1].

Hab. COSTA RICA, Volcan de Irazu (*Rogers*[1]).

Only two specimens were obtained. The posterior portion of the elytra are depressed and deflexed rather suddenly, which gives an angular appearance to the insect when viewed sideways. The elytra are strongly rugose-punctate at their posterior half; and the flavous bands at the middle and at the lateral margin are very narrow and regularly shaped.

43. **Doryphora viridifasciata.** (Tab. XV. fig. 16.)

Very convex, light fulvous; base of the head, four spots at the thorax, and the scutellum black; elytra finely subgeminate punctate-striate, each elytron with three broad metallic green transverse bands.

Length 5–5½ lines.

Head with a few extremely fine punctures, fulvous, the base with a semiquadrate black spot; antennæ entirely light fulvous, the last six joints flattened and gradually widened, slightly longer than broad; thorax nearly three times as broad as long, the sides almost parallel at the base, very slightly rounded towards the apex, surface very sparingly covered with distinct punctures, fulvous with four subquadrate black spots placed transversely across the disk; scutellum black, shining; elytra very convex, almost cylindrical, slightly narrowed at the base, each elytron with about ten rows of fine punctures arranged in double lines towards the middle, the interstices finely aciculate, a broad band at the base, a second one immediately below the middle, and another of a more triangular shape near the apex bright metallic green; the last of these bands does not extend quite to the apex, nor either of them to the sutural margin. Mesosternal process very short.

Hab. MEXICO, Chiapas (*Sallé*); GUATEMALA, Purula, Sinanja (*Champion*).

Of this handsome species five specimens from Guatemala and one from Mexico are before me. The latter differs from all the others in the greater extension of the black at the base of the head, in its closer punctuation, and in the black colour of the last

seven joints of the antennæ; the thoracic spots also are of larger size, and the elytra more distinctly and more regularly geminate punctate. The species would perhaps be best placed after *D. æneo-ornata*.

44. **Doryphora ligata.** (Tab. XIV. fig. 13.)

Doryphora ligata, Stål, Diagn. 1858, p. 473; Monogr. Chrys. Amer. p. 75 [1].

Hab. Mexico [1]; Panama, Volcan de Chiriqui, Bugaba (*Champion*).—Peru [1].

The Panama specimens differ from the type from Peru in the collection of Mr. Baly in being paler and having all the darker lines on the elytra much less distinctly marked; but in all other respects they are similar. A specimen from Panama is figured.

45. **Doryphora falléni.**

Doryphora falléni, Stål, Diagn. 1859, p. 309; Monogr. Chrys. Amer. p. 77 [1].

Hab. Mexico [1].

46. **Doryphora decurrens.**

Doryphora decurrens, Stål, Diagn. 1858, p. 472; Monogr. Chrys. Amer. p. 65 [1].

Hab. Costa Rica [1].

47. **Doryphora spectabilis.** (Tab. XIV. fig. 19.)

Doryphora spectabilis, Baly, Trans. Ent. Soc. iv. 1858, p. 341 [1]; Stål, Monogr. Chrys. Amer. p. 66 [2].

Hab. Guatemala [1]; Nicaragua, Chontales (*Janson, Belt, coll. Sallé*); Costa Rica, Cache (*Rogers*).

48. **Doryphora clarki.**

Greenish æneous below; thorax finely punctured; elytra punctate-striate, testaceous, the sutural and lateral margins, a large elongate mark connected at the middle with the suture, and an irregular patch below the middle of each elytron piceous or dark fulvous.

Length 3½–4 lines.

Head extremely finely punctured; antennæ fulvous, all the joints, with the exception of the first four, subtriangular, short; thorax transverse, of equal width, with a small fovea at each side; the disk rather closely and very finely punctured, the punctuation scarcely stronger at the sides; elytra with ten rows of very regular punctures of moderate depth, testaceous, the lateral margin narrowly, the suture more broadly dark fulvous; an elongate broad stripe extends from the base to the middle of the suture, and is connected with a large roundish spot at the shoulder, which does not extend to either the basal or lateral margin; another subtriangular large spot is placed below the middle; mesosternal process long and robust.

Hab. Panama, Bugaba (*Champion*).

If the dark markings of the elytra are taken for the ground-colour, the testaceous or flavous portion may be described as follows:—A small streak near the scutellum and a still smaller one near the shoulder, a narrow band parallel and close to the lateral

margin, and an equally narrow convex and dentate band placed at the posterior half and at some distance from the suture. The insect, of which three specimens have been lately received, much resembles *D. eucosma*, from which the simply punctate-striate elytra at once distinguish it, the latter being *geminate* punctate in the allied species.

DESMOGRAMMA.

Desmogramma, Erichson, Archiv f. Naturg. 1847, i. p. 157.

In the species constituting the present genus, the prosternum is distinctly raised anteriorly and truncate, which structural character separates the genus at once from all others. About twenty-eight species, all inhabitants of South America, are known; the genus wants, however, revising, *D. redtenbacheri*, Stål, for example, belonging to another genus on account of the prosternum being normal and not raised. A single species is known to me from Central America:—

1. **Desmogramma conjugata.**

Desmogramma conjugata, Stål, Diagn. 1859, p. 320; Monogr. Chrys. Amer. p. 227 [1].

Hab. PANAMA (*Boucard*), Veragua [1], David (*Champion*).—COLOMBIA [1].

The general colour of this species is not always chestnut-brown as stated by Stål, but varies in often having a decided æneous tint. The specimens obtained by Mr. Champion agree in all respects with those in the collection of Mr. Baly named by Stål.

ELYTROSPHÆRA.

Elytrosphæra, Stål, Diagn. 1858, p. 474; Monogr. Chrys. Amer. p. 146.

In the want of membranous wings and in its general shape, *Elytrosphæra* approaches very closely the genus *Timarcha*, as has been also pointed out by Chapuis. The thorax in the former genus is much constricted at the base, and generally much narrower than the elytra, the latter being very convex and much narrowed at the apex. Amongst the described species many have the elytra ornamented by waved transverse metallic golden lines on a dark ground, others resembling in their markings some species of *Doryphora*. I am acquainted with only five species from Mexico, of which three have not been described previously.

1. **Elytrosphæra quadrimaculata.** (Tab. XV. fig. 22.)

Oblong-ovate, convex, widened behind, black; head and thorax rugose-punctate; elytra subgeminate punctate-striate, testaceous, the sutural and lateral margins and two triangular large patches, one before, the other behind the middle of each elytron, black.

Length 5–6 lines.

Head very closely punctured, rugose punctate near the middle; antennæ extending scarcely beyond the base of the thorax, the first six joints shining, the rest opaque, slightly longer than broad; thorax scarcely twice as broad as long, the sides nearly straight, slightly narrowed towards the base, the anterior angles acute

and produced into a short tooth, surface very closely punctured, the interstices somewhat rugose, more especially at the sides; scutellum broadly triangular; elytra widened towards the middle, geminate punctate-striate, testaceous, their epipleuræ and the sutural and lateral margins blackish green, a large subtriangular patch of the same colour extends from the base to the middle, and has its posterior edge cut oblique at each side, another still larger patch of a more regular triangular shape extends to nearly the apex, the anterior edge of this patch is concave; underside and legs greenish black.

Hab. MEXICO, Tanetza, Oaxaca (*Boucard, coll. Sallé*), Cerro de Plumas (*Höge*).

The depth of the punctuation varies in this species, being sometimes almost obsolete; the elytral sutural band is narrowed at the base, but is widened almost directly below the latter, and continues in that shape to the apex; the patches of the elytra occupy the greater part, so that only a narrow space of testaceous is seen between them and near the margins. I have retained the manuscript name given to it by Deyrolle.

2. **Elytrosphæra mexicana.** (Tab. XV. fig. 23.)

Ovate, convex, black; antennæ and legs fulvo-piceous; thorax and elytra rugose-punctate, the latter with the base, the lateral margin, and three narrow transverse lines and two spots near the apex golden yellow.

Length 3 lines.

Head with a few fine punctures; labrum fulvous; antennæ extending to one third the length of the elytra, fulvous, the last four joints thickened, longer than broad; thorax transverse, the sides distinctly rounded anteriorly, longitudinally rugose and variolose punctate, disk closely but less strongly punctured, black; elytra irregularly and rather strongly punctured, the interstices rugose, black, the base and lateral margin narrowly golden yellow; an oblique stripe of the same colour runs from the shoulder towards the sutural margin; another, sinuate stripe extends across the middle and joins the marginal stripe where the latter is convex for a short distance; a third oblique stripe, angulate at its inner portion, is placed below the middle, and two small spots of a ring-like shape near the apex; a small spot further joins the basal band near the scutellum; and another one is placed between the two posterior bands near the suture; femora piceous, tibiæ and tarsi fulvous.

Hab. MEXICO, Oaxaca (*Boucard, coll. Sallé*).

The shape and position of the golden lines on the elytra separate the present species from others of similar coloration. In the single specimen before me none of the transverse lines touch the suture, the marginal band is raised at the middle in a short convex shape, upon which the central band is placed, and the first oblique stripe is interrupted in its middle. The thorax is entirely black; and this distinguishes the species from its allies.

3. **Elytrosphæra villica.**

Elytrosphæra villica, Stål, Diagn. 1860, p. 455; Monogr. Chrys. Amer. p. 147[1].

Hab. MEXICO[1], Yolotepec (*Sallé*).

4. **Elytrosphæra aciculata.**

Elytrosphæra aciculata, Stål, Diagn. 1860, p. 455; Monogr. Chrys. Amer. p. 148[1].

Hab. MEXICO[1], Yolotepec (*Sallé*).

In the single specimen before me from the Sallé collection, the thorax shows no trace

of punctuation whatever; and in a specimen named by Stål from the collection of Mr. Baly, there are only a few very minute punctures visible at the sides, the rest of the disk being impunctate, thus differing from Stål's description, who gives the thorax as "vix perspicue, latera versus distinctius punctulatus."

5. **Elytrosphæra annulata.** (Tab. XV. fig. 24.)

Fulvo-piceous; antennæ and legs fulvous; thorax subremotely punctured; elytra closely and irregularly punctured, a ring-shaped mark near the suture at the base, a transverse line at the middle, a longitudinal row of spots below the latter, and the lateral margin golden yellow.

Length 3 lines.

Head with a few fine punctures, lower part of face and the labrum fulvous; antennæ with the terminal joints gradually thickened, and nearly as broad as long, the last joint elongate; thorax of the same shape as that of *E. mexicana*, but less closely punctured at the disk, the sides strongly rugose-punctate; elytra rather strongly and closely but irregularly punctured, the interstices rugose near the sides, the suture accompanied by a row of closely arranged punctures; at the base near the suture a large ring-shaped mark of golden yellow extends to nearly the middle of the elytra; below the middle near the sutural margin a longitudinal row of small spots extends to the apex in a somewhat curved shape, and having another oblique spot attached to its commencement, while a transverse short narrow line of yellow is placed at the middle and rests upon the similarly coloured lateral margin in the same way as in the preceding species; this transverse line extends inwards only as far as the ring, which it nearly joins at its outer limb.

Hab. Mexico, Yolotepec (*Sallé*).

The elytral pattern of this species, of which I have also only a single specimen before me, is quite distinct from that of *E. mexicana*; so that it cannot be considered a variety of that species, although it is closely allied to it in other respects.

PYXIS.

Pyxis, Chevrolat in D'Orbign. Dict. univ. Hist. Nat. 1843, iii. p. 656; Stål, Diagn. 1860, p. 463; Monogr. Chrys. Amer. p. 289.

The species constituting this genus bear a great resemblance to those of the genus *Plagiodera*, from which I am only able to distinguish them by their appendiculate (not bifid as Chapuis says) claws, these organs being simple in the allied genus. As to the concave form of the abdominal segments, upon which Chapuis lays stress, I find the same to occur occasionally in *Plagiodera*, while in *Pyxis* it is not always present, *P. clavigera* showing scarcely any trace of it. The same remark applies to the length of the first abdominal segment, which is of equal size to the rest in *Plagiodera*, while in some species of *Pyxis* it is scarcely longer than the following ones. Only a single species has been described as inhabiting Mexico: I find the same locality given to a species (*P. clavigera*) in the collection of Mr. Baly; but this is probably an error, as I have not seen any other specimens from that locality.

1. **Pyxis indiga.**

Pyxis indiga, Stål, Diagn. 1860, p. 463; Monogr. Chrys. Amer. p. 290[1].

Hab. Mexico[1], Cordova (*Sallé*).

Fam. GALERUCIDÆ.

Subfam. *HALTICINÆ.*

In attempting to monograph the Halticinæ of Central America I am fully aware of the great and many difficulties which have to be overcome—the great amount of material before me, the structural characters of the group which have to be taken into account, many of which are perhaps rather dubious when used as a guide to determination of genera, and, most of all, the difficulty one has to encounter in trying to arrange the vast material into some state of order so as to assist as much as possible the student in the determination of this difficult group. To solve this perplexing problem would have been a more arduous undertaking, had not the genial Chapuis marked out a basis for future studies in his continuation of Lacordaire's 'Genera des Coléoptères.' In the present monograph of the Halticinæ of Central America I prefer, however, not to follow entirely that author's arrangement, but adopt the plan followed by von Harold in his description of Colombian Halticinæ (Coleopterologische Hefte, xiv.), dividing the entire group into two sections, viz. those in which the thorax shows a more or less distinctly marked transverse groove, and others in which the thorax is entirely without that character. The first section can then again be divided into genera with open and genera with closed anterior coxal cavities. The first of these characters, the thoracic groove, seems to me of quite as great importance as the state of the anterior cavities, and is at all events easy of recognition, which is of great value in so numerous and difficult a family.

Section I.—*Thorax with a transverse groove, the latter limited and interrupted at the sides.*

a. *Anterior coxal cavities open.*

DIPHAULACA.

Diphaulaca, Clark, Journ. Ent. ii. 1865, pp. 377, 386; Chevrolat in D'Orbign. Dict. univ. Hist. Nat. v. p. 46.

The differences between this and the next genus (*Lactica*), to which it is closely allied, has been well pointed out by von Harold in the 'Coleopterologische Hefte,' to which I simply refer here. Clark's definition of the genus is therefore only partly correct; and the species he describes cannot belong all to *Diphaulaca*, on account of the punctuation of the elytra, which is arranged in regular striæ and not confusedly punctate as some of Clark's species are. The anterior angles of the thorax in *Diphaulaca* are acute and turned outwards, the claws are appendiculate, and the palpi have the terminal joint pointed and slender. Only a single species has been described previously from Central America, the others from South America.

1. Diphaulaca aulica.

Diphaulaca aulica, Oliv. Ent. vi. p. 678, t. i. fig. 15[1]; Harold, Coleopt. Hefte, xiv. p. 4[2].
Diphaulaca bicolor, De Geer, Mém. Ins. v. p. 357, t. 16. fig. 20[3].

Hab. MEXICO, Juquila, Capulalpam, Oaxaca, Cordova, Puebla, Toxpam, Santecomapam, Cuernavaca, La Parada, Cosamaloapam, Tuxtla (*Sallé*), Jalapa (*Höge*); BRITISH HONDURAS, river Sarstoon, river Hondo (*Blancaneaux*); GUATEMALA (*coll. Sallé*), near the city (*Salvin*), Zapote, Capetillo, Chacoj, Chiacam, Sabo, Tamahu (*Champion*); COSTA RICA (*van Patten*); PANAMA, Volcan de Chiriqui (*Champion*).—COLOMBIA[2]; GUIANA[1 3].

Von Harold has given a renewed description of this species, which seems to have a wide geographical distribution. From the above localities more than a hundred specimens are before me, the variability of which leave me no other choice but to refer them all to the same species: the type, which is described as having red legs and underside, agrees with a great number obtained by Mr. Champion; others, from the same localities, are black below with legs of the same colour; and between these forms I have all kinds of intermediate stages. The punctuation of the elytra is also somewhat variable, the striæ, which are fine, sometimes continuing to the apex, but generally becoming indistinct below the middle; the size of the insects is also varying to a very great extent, from two to four lines, and the colour of the antennæ varies from red to black, with intermediate stages. I see therefore no reason to consider those forms specifically distinct, and prefer to look upon them as varieties.

2. Diphaulaca wagneri.

Diphaulaca wagneri, Harold, Coleopter. Hefte, xiv. 1875, p. 5.

Hab. GUATEMALA.

I have but little doubt that this species is but one of the numerous varieties of *D. aulica*, as the principal difference, according to the author's diagnosis, seems to be one of colour; but not having the type to compare, I cannot be sure about it.

3. Diphaulaca intermedia.

Oblong-ovate, rufous; antennæ (the three basal joints excepted) and tarsi black; elytra metallic green, closely and finely punctate-striate.

Length $2\frac{1}{2}$ lines.

Head impunctate; frontal tubercles small but distinct; carina short, tuberculate; antennæ less than half the length of the body, all the joints rather short, the first three rufous, the rest black; thorax transverse, constricted near the base, the sides rounded anteriorly, anterior angles acute but little produced; basilar sulcation deep; scutellum rufous; elytra widened towards the apex, the base distinctly raised and transversely depressed, the shoulders prominent; surface very closely and finely punctured, the punctures forming semiregular lines, but disappearing towards the apex; underside and legs rufous; tarsi black or piceous.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

I separate this species from its congeners on account of the close punctuation of the elytra, which is rather obsoletely arranged in rows. The typical character of this species is not so pronounced as usual; the frontal tubercles are, however, very distinct, the carina is very short, and the anterior angles of the thorax are equally pointed, although not produced outwards. The basal elevation and punctuation of the elytra show the place of the insect to be in this genus, of which I know no species with such closely punctured elytral striæ. I may add here that Clark, in his paper on the American Halticidæ, describes one or two species which he compares to *D. punctata* and *D. contempta*. No such species as these latter ones have ever been described under such names to my knowledge.

4. **Diphaulaca nitida.**

Ovate, widened behind, very convex, dark metallic violaceous blue; thorax impunctate, transversely and longitudinally grooved. Elytra with deep basal depression, finely punctate-striate, apex nearly impunctate.

Length 2–3 lines.

Head impunctate, the frontal tubercles distinct, well limited, and rather elongate; carina short, but distinctly raised; palpi slender; antennæ nearly two thirds the length of the body, third and fourth joints equal, the former twice as long as the second joint, obscure bluish violaceous, closely pubescent; thorax transversely convex, anterior angles acute and slightly produced outwards, sides rounded at the middle; the basilar groove deep and sinuate at the middle, its sides limited by a deep longitudinal groove; surface entirely impunctate, very shining and smooth; scutellum with the apex rather rounded; elytra widened behind the middle, very convex, the base swollen and transversely depressed below this elevation; surface finely, closely, and rather regularly punctured, the apex nearly impunctate in many specimens.

Var. Above metallic yellowish green.

Hab. MEXICO, Jalapa, Cerro de Plumas (*Höge*), Santecomapan, Teapa, Cordova (*Sallé*); BRITISH HONDURAS, river Sarstoon (*Blancaneaux*); GUATEMALA, San Gerónimo, Capetillo, Purula (*Champion*); COSTA RICA, Volcan de Irazu (*Rogers*).

The species described here is one of the most puzzling insects of the genus in which I have placed it, on account of the projecting anterior angles of the thorax, which also has a deep transverse and longitudinal groove, and of the distinctly raised basal portion of the elytra. The amount of variability exhibited by the very numerous specimens before me makes it impossible to come to any even approximate conclusion as to the specific value of the characters to be found. The description given above can only be used as a *general* guide, to which I will add that shape, comparative length of the joints of the elytra, sculpture of the latter, and general form of the insect are scarcely alike in two specimens even from the *same locality*, which I consider of more importance in the separation of forms than even their outward appearance. I may, however, remark that nearly all the Mexican specimens are of a dark violaceous blue colour, and the Guatemalan and Costa-Rican insects of a yellowish metallic green, although specimens of a blue colour occur also amongst those from the last-named localities. From Jalapa and Costa Rica I have before me small and larger specimens more or less convex, with stout or more elongate antennæ, and elytral punctuation as variable, which would necessitate

their separation into half a dozen species, which would be scarcely satisfactory. I prefer, as in the case of *D. aulica*, to regard all the forms as belonging to one very variable species.

5. **Diphaulaca panamensis.**

Ovate, very convex, dark violaceous blue; antennæ slender; elytra closely and distinctly punctured, the punctuation visible to the apex, the base raised.

Length $2\frac{1}{2}$ lines.

Head impunctate, the frontal tubercles elongate and obliquely shaped, limited posteriorly by a transverse groove; carina short and thick; antennæ half the length of the body, greenish blue, the first three joints shining, the rest opaque, closely pubescent; fourth joint slightly longer than the third, fifth one half longer than the fourth; thorax transverse, very convex, impunctate, the sides straight at the base, rounded at the middle; anterior angles acute; basal, transverse, and longitudinal sulcation deep, the former extending also upwards laterally beyond the longitudinal groove; surface impunctate; elytra very convex, wider at the base than the thorax, distinctly transversely depressed below the base, the latter raised, the humeral callus prominent; surface very closely and rather strongly punctured, the punctuation more finely but distinctly visible towards the apex.

Hab. PANAMA, Bugaba (*Champion*).

I have separated this species from *D. nitida* on account of its more convex shape, longer antennæ (the joints of which are more elongate), and stronger elytral punctuation, all of which characters are the same in the dozen specimens obtained at Bugaba.

The present species and *D. nitida* cannot well be included in von Harold's genus *Lactina*, on account of the distinct basal elevation of the elytra and their more striate-punctate sculpture. The continuation of the thoracic groove beyond the lateral one is visible in certain lights only, and may be found to a greater or smaller degree in other species of *Diphaulaca*. Von Harold has described a few similarly marked insects, and put them in the genus *Haltica* (*Graptodera*), to which I cannot refer the present and preceding insects on account of the deep longitudinal thoracic groove and the other structural characters pointed out above. In the insect described here from Panama there is no variation visible amongst the specimens, as in the case of *D. nitida*.

6. **Diphaulaca chiriquensis.** (Tab. XVI. fig. 1.)

Metallic violaceous or greenish blue; head with a deep fovea; thorax impunctate; elytra closely punctured, the punctures arranged in irregular striæ.

Length 2 lines.

Head impunctate, with a deep longitudinal fovea between the eyes; antennæ scarcely half the length of the body, black, the apex of the first three joints obscure fulvous, third joint nearly twice as long as the second; thorax rather convex, the anterior angles thickened and slightly pointed outwards; sides nearly straight, the transverse sulcation very distinct, sinuate, and deeply limited laterally by a longitudinal groove; the entire surface impunctate and rather swollen in front of the sulcation; elytra with a distinct but not very deep depression near the suture below the base; the punctuation somewhat variable in depth, generally well visible anteriorly, and arranged in rather irregular double rows towards the suture, the punctuation more fine towards the apex, but more strongly impressed near the sides. Legs dark blue; underside blackish blue.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

The present species can only be confounded with two others, *D. fossifrons*, Har., and *D. jucunda*, Har., with both of which it has the deep fovea of the head in common. The former insect is, however, distinguished by the colour of the first three joints of the antennæ and of that of the anterior part of the femora, which are rufous, and by the want of the punctuation below the middle of the elytra. *D. jucunda* is smaller; the first three joints of the antennæ are described as being reddish, and the apex of the elytra impunctate and with a shallow depression. Von Harold does not mention the shape of the sides of the thorax, nor does he compare the last-named species with *D. fossifrons*, to which it seems more nearly allied than to *D. colombica* and *D. hilaris*.

According to Mr. Baly these latter species ought to be placed in the genus *Hermæophaga* (Trans. Ent. Soc. 1879), on account of a small spine at the four anterior tibiæ. I am unable to discover this character in a typical specimen contained in my collection, and think that von Harold has placed the species in the proper genus, all the other characters peculiar to *Diphaulaca* being also present.

Another species described by von Harold, *D. sulcifrons*, seems also closely allied to the present (both having the thoracic groove continued parallel with the lateral margin when viewed in certain lights); but in the last insect the antennæ and legs are of different colour.

7. **Diphaulaca sobrina.**

Ovate-oblong, obscure testaceous below, dark violaceous above; four basal joints of the antennæ and the base of the legs testaceous; head deeply foveolate; thorax impunctate; elytra with a few punctured striæ anteriorly.

Length 1½ line.

Hab. Mexico, Playa Vicente (*Sallé*).

As this species is, again, closely allied to *D. chiriquensis*, *D. fossifrons*, and one or two others, it will be better to point out the distinguishing differences only. In the species before us the upper colour is a dark violet, in which the insect differs from all other allied forms. The head has a deep fovea extending nearly to the vertex. The antennæ are more than half the length of the body, the third joint is nearly double the length of the second, the four basal joints testaceous. The elytra have the base rather raised, with a punctured stria near the suture and a few others towards the sides, the rest of the surface impunctate. Legs and underside obscure testaceous, with a more or less distinct violaceous blue gloss.

This colour and that of the upperside will separate this species from *D. jucunda*, Har. The two specimens before me do not differ from each other in any way.

8. **Diphaulaca crassicornis.**

Ovate, convex, dark violaceous blue; antennæ black, incrassate towards the apex; thorax with the transverse groove continued laterally; elytra with deep basal depression, distinctly punctate-striate anteriorly.

Length 1½ line.

Head smooth, impunctate, the frontal tubercles elongate and not well limited posteriorly; carina short, rather blunt; labrum piceous; antennæ half the length of the body, the first joint metallic violaceous, third and fourth joints of equal length, distinctly longer than the second; the following joints gradually widened and covered with rather long pubescence; thorax much broader than long, the sides rounded at the middle, angles acute, the anterior ones thickened; posterior margin slightly produced at the middle; surface smooth, impunctate; the basal groove deep, slightly sinuate, and limited laterally by a deep longitudinal groove, beyond which the transverse one extends some distance upwards near the lateral margin when the insect is seen in certain lights; elytra with the base distinctly raised and deeply depressed below the latter, rather strongly, regularly, and closely punctate-striate to beyond the middle, from there to the apex impunctate; the basal margin is also narrowly raised and accompanied by a row of deep punctures.

Hab. GUATEMALA, Purula, San Gerónimo, Senahu, Tamahu, Cahabon, San Juan in Vera Paz; PANAMA, Volcan de Chiriqui (*Champion*).

9. **Diphaulaca brevicollis.**

Oblong-ovate, subparallel, rufous; antennæ (the two basal joints excepted) and tarsi piceous; thorax short, very transverse; elytra violaceous blue, without basal elevation, closely and semiregularly punctate-striate.

Length 2 lines.

Head impunctate, with a deep fovea in front of each eye; frontal tubercles very small and indistinct; labrum fulvous without punctures; antennæ half the length of the body, two lower joints rufous, the rest black; third and fourth joints scarcely longer than the second, rest of the joints also rather short; thorax nearly three times as broad as long, all the margins straight, the anterior angles acute but not produced; surface impunctate; the basal sulcation deep and rather closely approached to the posterior margin; scutellum broad, fulvous; elytra not widened behind, without any basal elevation or depression, closely and rather strongly punctate-striate, the apex nearly impunctate.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

From all the other described species the present one will be readily known by its transverse thorax, which is as wide as the elytra, the comparative length of the joints of the antennæ, and their colour. One specimen only is before me.

10. **Diphaulaca quadraticollis.**

Greenish black below, metallic green above; antennæ black, long; thorax square-shaped, impunctate; elytra regularly and strongly punctate-striate.

Length $1\frac{1}{2}$ line.

Head impunctate, with an impressed line round the inner margin of the eyes; frontal tubercles rather flattened, with a fovea dividing them; carina very short and indistinct; antennæ two thirds the length of the body, black, the first joint metallic greenish; third and fourth joints of equal length and double the length of the second; thorax nearly square-shaped, widened at the sides before the middle, the angles acute and produced in a short tooth; surface much swollen in front of the basal groove, the latter deep and of usual shape; elytra with the base scarcely raised, strongly and regularly punctate-striate, especially anteriorly and laterally, the punctuation less strongly but still distinctly visible at the apex; tarsi black.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

I am somewhat doubtful whether this species, of which I have but one specimen to compare, is not a variety of *D. hilaris*, Har., to which, at all events, it is very closely allied. The antennæ in the latter insect are, however, more elongate and slender, and

the first three joints are red; the thorax in the present species is more convex and rather longer; and, lastly, the colour of the entire insect is more of a brassy dark green.

11. **Diphaulaca jucunda.** (Tab. XVI. fig. 2.)

Diphaulaca jucunda, Harold, Coleopt. Hefte, xiv. p. 9 (1875) [1].

Hab. Panama, Volcan de Chiriqui (*Champion*).—Colombia [1].

The specimens obtained by Mr. Champion agree very nearly with a typical specimen contained in my collection, kindly given to me by M. Oberthür. There are some slight differences to be found in the colour of the first three joints of the antennæ, which is not red but metallic green above in the Panama specimens, although those joints are fulvous below. The punctuation of the elytra is also somewhat more strongly impressed and a little more regular; but I think these differences only attributable to local influences.

12. **Diphaulaca colombica.**

Diphaulaca columbica, Harold, Coleopt. Hefte, xiv. p. 8 (1875) [1].

Hab. Mexico, Cordova, Toxpam (*Sallé*).—Colombia [1].

The differences notable between the Mexican insects and one from Colombia in my collection (named by von Harold) are but slight. In the latter the first joints of the antennæ are reddish at their apex; in the Mexican specimen they are black. In other respects the insects agree with the description of the author.

13. **Diphaulaca irazuensis.**

Subelongate, narrow, obscure greenish black below, above metallic green; antennæ, tibiæ, and tarsi black; elytra depressed below the base, finely punctured at the same place, impunctate from middle to apex. Length $1\frac{1}{2}$ line.

Hab. Costa Rica, Volcan de Irazu, Rio Sucio (*Rogers*).

I separate this species from *D. jucunda* and allied species on account of the following differences:—The underside is nearly black, the breast and femora only being tinged with metallic greenish colour. The antennæ are black, with the exception of the first joint, which is more of a metallic bluish colour; the third joint is double the length of the second, in which character the antennæ agree with *D. jucunda*. The principal difference is to be found in the punctuation of the elytra, which are very finely punctured near the base only, the rest of their extent being nearly impunctate.

Some specimens from the same locality are of a more robust and broader shape, and the thorax is more transverse; but as they agree in all other respects, I take this difference to be peculiar to the female sex. The palpi in *D. irazuensis* have the penultimate joint rather robust. In size and shape the species agrees with *D. jucunda*.

LACTICA.

Lactica, Erichson, Archiv f. Naturg. 1847, i. p. 173.
Monomacra, Strabala, Lacpatica, Chevrolat, Dej. Cat. 3rd ed. p. 413.
Camœna, Baly, Journ. of Ent. i. p. 458.

Although closely allied to *Diphaulaca* and *Lactina*, Har., the shape of the thorax and that of the frontal carina in *Lactica* separate it distinctly from both the above-named genera. Von Harold has pointed out the obtuse not produced anterior angle of the thorax and the widened carina in *Lactica*, in connexion with the want of an elytral basal elevation and their generally confusedly arranged punctuation. Instances, however, occur in which it is extremely difficult to separate *Lactica* from *Diphaulaca*, as intermediate forms are found here, as well as in other branches of zoology, which may be rightly classed in either genus. These cases, however, are rare. *Lactica* is tolerably rich in species from most parts of the world: few have up till now been described from Central America.

1. **Lactica bifasciata.** (Tab. XVI. fig. 3.)

Elongate, subparallel, testaceous; head, antennæ, and legs black; thorax and elytra impunctate, testaceous, each elytron with a black longitudinal band from the base to nearly the apex.

Length $2\frac{1}{2}$–3 lines.

Head impunctate, shining, the frontal tubercles but slightly raised and divided by a shallow groove; clypeus thickened, widened in front, minutely punctured; antennæ less than half the length of the body, the first joint curved and thickened, subclaviform, the second one short, the third and following joints of nearly equal length and rather short; thorax transverse, impunctate, the sides narrowly margined and nearly straight, the basal groove sinuate, very obsolete, and visible only in certain lights, but limited at each side by a deep sulcation; scutellum small, the apex obtuse; elytra but little convex, not visibly punctured, testaceous; a broad black band slightly narrowed at the middle extends from the base to a little distance from the apex.

Var. Base of the femora testaceous.

Hab. PANAMA, Volcan de Chiriqui, David, Caldera (*Champion*).

2. **Lactica nigromaculata.** (Tab. XVI. fig. 12.)

Elongate, subparallel, testaceous; antennæ (the basal joints excepted), tibiæ, and tarsi black; thorax and elytra impunctate, testaceous; a spot at the base of the latter and another near the apex black.

Length 2 lines.

Head slightly broader than long, with a small fovea near the inner margin of the eyes; frontal tubercles small, rather obsolete; antennæ two thirds the length of the body, the first three joints testaceous, the rest black; third joint twice as long as the second, the three following joints distinctly longer than the third; thorax transverse, impunctate, the basal sulcation deep as well as the lateral grooves; elytra very slightly widened towards the apex, the shoulders prominent, the base not transversely depressed, surface impunctate; each elytron with a narrow spot placed at the shoulder and another rounded one near the scutellum, black; another spot of the same colour, but larger and round, is situated at a little distance from the apex; neither of these spots touches the lateral nor the sutural margin. Underside and femora testaceous; tibiæ and the tarsi black.

Var. The elytral basal spot divided.

Hab. GUATEMALA, Capetillo (*Champion*).

Of the two or three similarly coloured species, the present one is at once distinguished by its much smaller size and that of the elytral spots, also by the colour of the legs and the antennæ. While two of the four specimens received are marked as described above, the two others have the two spots at the base of the elytra confluent, but in such a way as to preserve the shape of the elongate shoulder-spot. The insect is of less than half the size of *L. macula*, Fab., from which it is further distinguished by the deep thoracic groove.

3. **Lactica variabilis.** (Tab. XVI. figg. 17, 18.)

Oblong, parallel, obscure testaceous; antennæ (the three basal joints excepted), the apex of the femora, tibiæ, and tarsi piceous; elytra extremely finely punctured, testaceous, a subquadrate spot at the base blackish blue.

Length $1\frac{1}{2}$–$1\frac{2}{3}$ line.

Head impunctate, frontal tubercles very flattened and obsolete; carina but little raised, broad; antennæ two thirds the length of the body, black, the first three joints obscure fulvous, third joint about half as long as the second, fourth joint one half longer than the third; thorax impunctate, transverse, sides slightly rounded and constricted near the base, basal sulcation deep; elytra rather elongate, scarcely widened posteriorly, the punctuation microscopically fine, each elytron with a subquadrate piceous or bluish spot at the base which does not extend to the sutural or lateral margin; apex of the femora, the tibiæ, and tarsi more or less distinctly piceous.

Var. a. Elytra with an additional apical spot.

Var. b. Elytra unicolorous, obscure fulvous.

Hab. Mexico, Cordova (*Sallé*), Jalapa (*Höge*); Guatemala, Dueñas, Zapote, Capetillo, Purula, Tamahu, San Joaquin in Vera Paz (*Champion*); Panama, Volcan de Chiriqui (*Champion*).

The normally coloured specimens of this species, or those which have a basal spot, are not difficult to distinguish on account of this coloration. Between this form and those without elytral spots numerous intermediate stages are before me, the species having been obtained in great numbers. In some the basal spot is just visible, in others it has disappeared altogether, and in two specimens obtained at Jalapa there is an additional spot near the apex of each elytron. The colour of the legs is equally variable, but generally the apex of the femora and the tibiæ are piceous. Spotless examples of this species are not easy to distinguish from other small forms of somewhat similar colour. In the present insect the colour is a very light fulvous; the shape is narrow and parallel, not widened posteriorly. The colour of the antennæ and that of the body will help to distinguish the variety from *L. uniformis*. A specimen from Chiriqui and one from Jalapa are figured.

4. **Lactica chevrolati.** (Tab. XVI. fig. 16.)

Elongate, subparallel, testaceous; antennæ, the apex of the femora, tarsi, and tibiæ black; elytra impunctate.

Length 2–$2\frac{1}{2}$ lines.

Head distinctly punctured near the inner margin of the eyes, space between the latter impressed with a longitudinal fovea; maxillary palpi thickened at the penultimate joint, piceous; antennæ two thirds the length

of the body, the first three joints more or less distinctly testaceous, the rest black, third joint about half as long as the second; thorax twice as broad as long, the sides straight, basal sulcation deep, surface impunctate; elytra elongate, nearly parallel, entirely impunctate; scutellum comparatively large and broad.

Hab. MEXICO, Cordova, Toxpam (*Sallé*), Jalapa (*Höge*).

Very closely allied to *L. bogotana*, Har., and also to *L. xantochroa*, Har.; from the first distinguished by the smaller size, more transverse and altogether differently shaped thorax, and from the second-mentioned species by the impunctate elytra and different length of the joints of the antennæ. *L. tibialis*, Oliv., is much smaller.

5. **Lactica chiriquiensis.** (Tab. XVI. fig. 14.)

Ovate, fulvous; antennæ (the first joint excepted), tibiæ, and tarsi black; elytra very minutely punctured.

Length 2 lines.

Head impunctate, very flat; eyes slightly emarginate; carina narrow and raised between the antennæ, much widened and flattened anteriorly; antennæ more than half the length of the body, the second and third joints of almost equal length, all the joints robust, the first fulvous; thorax transverse, its sides very straight, almost concave at the middle; basilar and lateral sulcation very distinct, surface impunctate; scutellum small, fulvous; elytra widened towards the middle, from there to the apex narrowed, extremely finely punctured near the basal portion; underside more testaceous, tibiæ and the tarsi piceous or black.

Hab. PANAMA, David (*Champion*).

In shape this species somewhat approaches *L. scutellaris*, in coloration *L. citrina*, Har. I would not have separated the insect from the latter species, to which it is closely allied, but for the following differences: the body, instead of being widened towards the apex, as in *L. citrina* (of which, through the kindness of M. Oberthür, I have a typical specimen for comparison), is widened at the middle; the second and third joints of the antennæ are of nearly equal length; the thorax is distinctly more transversely shaped and the sides straighter; lastly, the posterior tibiæ are longer and somewhat curved.

6. **Lactica uniformis.** (Tab. XVI. fig. 5.)

Oblong, convex, parallel, testaceous or flavous, shining; antennæ black, the two basal joints flavous; elytra extremely minutely punctured.

Length $1\frac{1}{2}$ line.

Vertex of head impunctate; carina strongly raised; frontal tubercles very obsolete; eyes large, rather closely approached; antennæ about two thirds the length of the body, third joint one half longer than the second, the other joints elongate, of nearly equal length, black, the two basal joints flavous; thorax about twice as broad as long, its sides straight and parallel, narrowly margined, the anterior angles obtuse and rather obliquely cut, basilar groove deeply impressed; elytra narrow, convex, and parallel, without basilar depression, exceedingly minutely punctured when seen under a strong lens, the punctures generally surrounded by piceous rings; entire underside, legs, and tarsi flavous.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

The narrow parallel shape, and the pale and uniform flavous colour of the body, will help to separate the present insect from *L. citrina*, Har., *L. pallida*, Clark, and all other somewhat similarly coloured species. It has been obtained in great numbers by Mr. Champion.

7. **Lactica scutellaris.** (Tab. XVI. fig. 6.)

Altica scutellaris, Oliv. Ent. vi. p. 699, t. 3. f. 756 [1].
Lactica scutellaris, Harold, Coleopt. Hefte, xiv. 1875, p. 20 [2].
Haltica ambulans, Suffrian, Wiegm. Arch. 1868, p. 182 [3].
Strabala hæmatina, Dej. Cat. 3rd ed. p. 413 [4].

Hab. MEXICO, Jalapa (*Höge*), Juquila, Puebla, Cordova, Teatengo (*Sallé*); BRITISH HONDURAS, river Hondo (*Blancaneaux*); GUATEMALA (*Sallé*), Zapote, Dueñas, San Gerónimo, Coban, Cahabon, Purula (*Champion*); NICARAGUA (*coll. Sallé*); COSTA RICA (*van Patten*), Volcan de Irazu, Cache (*Rogers*).—CUBA [3]; BRAZIL [4]; COLOMBIA [2].

This seems to be a rather common and widely distributed species, which was received plentifully from the above localities. Von Harold has redescribed it at length in the 'Coleopterol. Hefte,' to which I must refer here. Besides those varieties mentioned by this author, I have three specimens from Juquila before me which differ from all others in having the scutellum red like the elytra, instead of black; in other respects I can see no difference from the normal forms. A specimen from Cordova is figured.

8. **Lactica intermedia.**

Lactica intermedia, Jacq. Duv. Hist. Phys. Cub. Ins. p. 311 [1]; Suffr. Wiegm. Arch. 1868, i. p. 184 [2]; Harold, Col. Hefte, xiv. p. 22; Dej. Cat. 3rd ed. p. 413.

Hab. COSTA RICA [2].—CUBA [1].

I am not acquainted with this species, which, according to von Harold, is separated from *L. scutellaris* by the more distinctly punctured elytra and the longer spine at the posterior tibiæ.

9. **Lactica subcostata.** (Tab. XVI. fig. 13.)

Subelongate, slightly widened behind, pale fulvous below; antennæ, apex of the femora, the tibiæ, and tarsi black; thorax with an anterior lateral fovea and a deep basal groove, fulvous; elytra obsoletely longitudinally costate, fulvous, scarcely visibly punctured.

Length 2 lines.

Head convex, deeply and irregularly punctured near the eyes, the vertex somewhat rugose, the frontal tubercles rather elongate, not very distinct; clypeus triangularly widened in front, testaceous; antennæ more than half the length of the body, rather robust, black, the first two or three joints testaceous below; thorax transversely subquadrate, the sides rounded, basal sulcation sinuate, deep, and gradually approaching the posterior angles; another short oblique transverse fovea is placed at each side near the anterior margin, rest of the surface rather convex and impunctate; scutellum triangular, the apex acute; elytra extremely finely punctured, only visible under a strong lens, very faintly depressed below the base, with traces of longitudinal costæ at the disk which become more distinct near the lateral margin, near which at least one well-marked longitudinal sulcation is visible. Legs finely pubescent, testaceous, the apex of all the femora, together with the entire tibiæ and tarsi, black.

Hab. MEXICO, Jalapa (*Höge*); GUATEMALA, Torola, Mirandilla, Paso Antonio, Cubilguitz (*Champion*).

This and the following species may be distinguished from those similarly coloured by

the anterior depression at the thorax; the present insect, besides this character, by the obsoletely costate elytra *. Many specimens from the different localities given above have been obtained; a single one only at Jalapa, which agrees with the others. This species deviates somewhat from the typical forms of *Lactica* in the shape of the thoracic groove, which is not so well limited laterally as is generally the case, but approaches more gradually the angles of the posterior margin. The head also shows a rather unusual sculpture; in all other respects the species cannot be separated from the genus. The specimen figured is from Paso Antonio.

10. **Lactica minuta.** (Tab. XVI. fig. 15.)

Ovate, rufous, shining; terminal joints of the antennæ black; base of the femora and tibiæ fulvous; tarsi black; basal groove of thorax obsolete, the latter with a lateral anterior fovea; elytra smooth, impunctate.

Length 1 line.

Head rather flat, strongly punctured near the inner margin of the eyes; frontal tubercles very small; antennæ two thirds the length of the body, slender, black; three basal joints testaceous, fourth joint distinctly longer than the third; thorax transverse, the sides very slightly rounded; basal margin and the basal sulcation rather sinuate, the latter shallow but distinct; a transverse short depression is placed laterally near the anterior margin, rest of the surface impunctate; elytra rather convex, rufous, entirely impunctate when seen under an ordinary magnifying-power; knees, the apex of the tibiæ, and the tarsi piceous.

Hab. GUATEMALA, El Jicaro, San Juan (*Champion*); PANAMA, Bugaba (*Champion*).

From *L. subcostata*, with which the insect before us has the anterior thoracic depression in common, *L. minuta* may be easily distinguished by its small size, slender antennæ, the uniform rufous colour, and absence of the elytral costæ. In the one specimen obtained at Bugaba the anterior thoracic depression is almost obsolete; all other characters, however, agree with the specimens from the other localities. *L. rubra*, Illig., seems also very closely allied, and, according to a specimen in Mr. Baly's collection, differs only in its uniformly coloured fulvous legs and tarsi. The present insect may therefore be possibly but a variety of *L. rubra*; it is, however, still smaller than the latter and a little more widened posteriorly.

11. **Lactica mexicana.** (Tab. XVI. fig. 7.)

Fulvous; antennæ (the first joint excepted) black; elytra impunctate, depressed below the base, dark violaceous or greenish blue; tarsi black.

Length 2 lines.

Head impunctate; frontal tubercles indistinct; carina swollen, much widened in front; antennæ half the length of the body; the second joint subrotundate, short, third joint twice as long, the basal joint rufous, the rest black; thorax transverse, the sides narrowly margined, anterior angles obtuse, the basal sulcation deep, limited at each side, surface shining, impunctate; scutellum fulvous; elytra parallel, distinctly

* *L. rubricata*, Illig., seems a very closely allied species (to judge by a specimen contained in Mr. Baly's collection), but differs principally in the colour of the antennæ and legs. The present species may possibly be only a variety of this insect.

depressed below the base, the shoulders prominent, longitudinally depressed within, surface entirely impunctate, dark violaceous blue; underside and legs fulvous; tarsi obscure piceous or black.

Hab. MEXICO, Oaxaca (*Höge*), Haltengo (*Sallé*); GUATEMALA, San Gerónimo (*Champion*).

The nearest allied species to the present one seems to be *L. dives*, Har. In this species, however, the underside and the posterior femora are piceous, and the three basal joints of the antennæ rufous.

Three specimens were obtained by Herr Höge; one, in the collection of M. Sallé, is rather larger and brighter rufous, but agrees in other respects. In the Guatemalan specimen the tarsi are black; but I see no other differences to separate it from the rest. *L. mexicana* is further distinguished by the rather deep depression below the base of the elytra.

12. **Lactica högei.** (Tab. XVI. fig. 8.)

Oblong-ovate, fulvous; antennæ (the first joint excepted), apex of the tibiæ, and the tarsi piceous; elytra violaceous blue; abdomen bluish black.

Length $2\frac{1}{2}$ lines.

Head flat, extremely finely punctured when seen under a strong lens, with a small fovea between the eyes; frontal tubercles obsolete; antennæ more than two thirds the length of the body, black, first joint more or less rufous, the third joint slightly longer than the second, the fourth as long as the two preceding together; thorax transversely convex, the posterior angles somewhat obliquely cut, basal sulcation deep, but of usual shape; scutellum large, piceous; elytra slightly widened posteriorly, narrowed below the base, where they are distinctly transversely depressed; upper surface entirely impunctate, dark violaceous blue; abdomen dark bluish black; rest of the underside fulvous; the tibiæ partly and the tarsi entirely piceous.

Hab. MEXICO, Oaxaca (*Höge*), Toxpam (*Sallé*).

From *L. mexicana* the present species is principally distinguished by the different comparative length of the joints of the antennæ, the less parallel shape, and the bluish abdomen. The thoracic groove is also of less transverse extent than in the allied species. Three specimens are before me.

13. **Lactica lecontei.**

Oblong-ovate, fulvous; antennæ black, the first joint fulvous; elytra metallic green, very finely punctured; abdomen greenish black.

Length 2 lines.

Head impunctate, with a small fovea in front of the eyes; frontal tubercles scarcely raised, the carina strongly elevated, elongate, and widened in front; antennæ long, rather robust, the third joint double the length of the second, fourth joint twice as long as the third, following joints elongate (the three terminal ones broken off); thorax twice as broad as long, the sides evenly rounded, surface impunctate, the basal groove not deeply impressed, sinuate; scutellum black; elytra regularly ovate, with a shallow depression below the base, bright metallic green with a slight bluish tint, very finely punctured, only visible under a strong lens; legs fulvous; abdomen dark greenish.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

Allied to *L. högei* in general size and coloration, but differing in the following points:—The thorax is of a more equal width and not narrowed in front; the elytra are not narrowed below the base, but gradually widened towards the middle; the carina is much more elevated and elongate; and, lastly, the colour of the elytra is metallic green instead of violaceous.

14. **Lactica perplexa.** (Tab. XVI. fig. 21.)

Oblong-ovate, fulvous; antennæ (the first joint excepted), tibiæ, and tarsi black; elytra violaceous, closely punctate-striate.

Length 1½–2 lines.

Head impunctate; maxillary palpi swollen and robust; frontal tubercles very small and indistinct; carina very short; antennæ less than half the length of the body, the third and fourth joints of equal length, not much longer than the second, rest of the joints rather robust, black, the first joint fulvous; thorax transverse, the anterior angles rather acute, the sides slightly widened directly below the latter, basilar sulcation very deep, surface impunctate; scutellum fulvous; elytra violaceous or greenish blue, closely and rather regularly punctate-striate, the punctures distinctly visible to the apex; prosternum rather broad and elongate.

Var. Abdomen and legs entirely black.

Hab. GUATEMALA, Purula, Calderas, Capetillo (*Champion*); PANAMA, Boquete, David, Volcan de Chiriqui (*Champion*).

Several characters unite in the present species to distinguish it from its allies, of which *L. dives*, Har., seems to be the most nearly allied form. A typical specimen of the latter insect, kindly given to me by M. Oberthür, differs in the entirely rufous underside and legs, the more elongate and filiform antennæ, and the more slender palpi, as well as in the narrower prosternum. I think I do not err in referring the few specimens from Guatemala to the same species, although they differ slightly in shape and in the colour of the legs. The very distinct punctuation of the elytra, which are without any basal depressions, will separate this species from others similarly coloured, and the differences pointed out above from *L. dives*.

15. **Lactica semiviolaceus.**

Oblong, dark violaceous blue; head and thorax testaceous; antennæ and scutellum black; above entirely impunctate.

Length 2½ lines.

Head impunctate, with a small but deep fovea in front of the eyes; frontal tubercles distinct, almost contiguous; carina convex, dilated in front; labrum and apex of jaws piceous; antennæ more than half the length of the body, the fourth joint distinctly longer than the third; thorax transversely convex, more than twice as broad as long, anterior angles thickened, the basal sulcation moderately deep, and interrupted slightly at each end, surface entirely impunctate; scutellum black, large; elytra slightly widened below the middle, entirely impunctate, dark violaceous; underside and legs almost black, with a violaceous blue tint.

Hab. MEXICO (*coll. Jacoby*).

The colour of the underside and legs well distinguishes this species, of which a single specimen is contained in my collection.

16. **Lactica antennalis.** (Tab. XVI. fig. 11.)

Elongate, parallel, testaceous below; breast, abdomen, and terminal joints of the antennæ black; head fulvous; elytra violaceous, very minutely punctured.

Length 1½ line.

Head obscure fulvous, broad; eyes very distant, inner margin near the latter impressed with a few rather deep punctures; frontal tubercles absent; antennæ more than two thirds the length of the body, obscure fulvous, the four or five terminal joints piceous, fourth joint as long as the second and third joints together; thorax impunctate, testaceous, the basal sulcation deep; scutellum of the same colour; elytra narrowly parallel, without any basal transverse depression, of a dark violaceous blue, very finely punctured when seen under a strong glass; underside, with the exception of part of the breast, piceous; abdomen black; legs testaceous.

Hab. GUATEMALA, Capetillo (*Champion*).

I must separate this species, of which I have five specimens for comparison, from the preceding ones similarly coloured, on account of the fulvous head, the long antennæ, their colour, and general shape of the insect.

17. **Lactica panamensis.** (Tab. XVI. fig. 4.)

Oblong-ovate, fulvous; antennæ (the three basal joints excepted) black; elytra bright metallic green, minutely punctured.

Length 1½ line.

Vertex of head extremely minutely punctured; a single fovea is placed close to the inner margin of the eyes; clypeus strongly raised and somewhat curved, narrowed between the eyes; antennæ nearly as long as the body, black, the first three joints fulvous, the fourth as long as the two preceding joints together; thorax transverse, fulvous, very shining, the sides rounded and slightly narrowed in front, basilar sulcation very deep, slightly sinuate, and terminating at each side at some distance from the lateral margin; scutellum broad, fulvo-piceous; elytra convex, nearly parallel, the base with a shallow transverse depression, longitudinally sulcate within the humeral callus, disk very minutely and closely punctured; visible only under a strong lens; a row of deeper punctures extends along the extreme lateral margin; underside and legs fulvous; tarsi obscure piceous.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

From similarly coloured species the present one may be separated by the small size, the bright metallic green elytra (which have only a slight tint of blue in some specimens), and the long antennæ. *L. dives*, Har., is distinguished by the dark violaceous elytra and the different comparative length of the joints of the antennæ, being besides of larger size. To judge by the numerous specimens received, the species must be not uncommon in Panama.

18. **Lactica æneipennis.** (Tab. XVI. fig. 20.)

Elongate, parallel, testaceous below; antennæ piceous; eyes closely approached; elytra impunctate, metallic greenish æneous.

Length 1½–2 lines.

Head about as broad as long; eyes very large and prominent, the space dividing them much narrower than their diameter in the male, deeply longitudinally foveolate, obscure piceous or fulvous; carina distinct; penultimate joint of the maxillary palpi elongate, slightly thickened, terminal one acute, short; antennæ

longer than the body in the male, third joint double the length of the second, the rest elongate, filiform the three basal joints obscure testaceous below; thorax narrowly transverse, of equal width, testaceous, disk sometimes spotted with piceous; basilar sulcation deep, sinuate anteriorly; scutellum testaceous; elytra shining metallic æneous, nearly parallel; underside testaceous, finely pubescent.

Hab. GUATEMALA, Cerro Zunil, Sinanja, Cubilguitz, Cahabon (*Champion*).

This is a very distinct species, on account of the very long antennæ and the narrow space dividing the large and plainly reticulate eyes in the male, to a little smaller extent in the female. In the latter the antennæ are not so long as in the male, where they extend quite to the end of the elytra. The species seems to vary considerably in size, some of the specimens having also four or five piceous spots on the disk of the thorax, while a single one so marked has the elytra entirely of the same colour; but the dozen other specimens show no variation in this respect.

19. **Lactica elongata.**

Elongate, parallel, below black; head, thorax, legs, and antennæ testaceous; elytra dark greenish, finely and closely punctured.

Length 1½ line.

Base of the head obscure fulvous, with some punctures; frontal tubercles elongate, obliquely shaped; carina scarcely raised and indistinct; terminal joint of the maxillary palpi acute; antennæ more than half the length of the body, entirely testaceous, fourth joint distinctly longer than the third, the two terminal joints thickened; thorax narrowly transverse, the sides scarcely rounded, anterior angles obtuse, surface impunctate; the basilar sulcation deep and sinuate; scutellum black; elytra narrow, parallel, closely punctured, the interstices somewhat rugose; underside of the thorax, part of the breast, and the legs testaceous.

Hab. MEXICO, Ciudad in Durango (*Forrer*).

Closely allied to *L. antennalis*, but differing in the colour of the antennæ and the punctuation of the elytra.

20. **Lactica dives.**

Lactica dives, Harold, Coleopt. Hefte, xiv. p. 16 (1875)[1].

Hab. PANAMA, Pena Blanca, 3000 to 4000 feet (*Champion*).—COLOMBIA[1].

The only difference I can detect between the one specimen obtained by Mr. Champion and a typical insect from the Steinheil collection in my possession is the smaller size of the former and the entirely red tibiæ and tarsi. The antennæ are black, with the exception of the two red basal joints.

21. **Lactica violacea.** (Tab. XVI. fig. 23.)

Oblong, very slightly widened behind, black or blackish-blue below; above violaceous or greenish blue; antennæ black; elytra very finely punctured at the base, with an obsolete depression below the latter.

Length 1½ line.

Head impunctate, inner margin of the eyes with a single small fovea; frontal tubercles very indistinct; carina broad, widened in front; palpi thickened, apical joint acute; thorax transverse, convex, the anterior portion deflexed, its angles obsolete, slightly thickened but not produced; basilar sulcation very deep,

sinuate at the middle and deeply limited laterally by the longitudinal grooves; scutellum blackish, its apex slightly rounded; elytra a little widened posteriorly, with a longitudinal depression within the shoulders and an obsolete transverse one below the base, the latter minutely punctured, the punctuation disappearing almost entirely towards the apex; antennæ longer than half the length of the body, black, the fourth joint much longer than the third one; underside black, with a slight metallic greenish or violaceous tint, finely pubescent.

Hab. GUATEMALA, San Juan in Vera Paz, Zapote, Purula (*Champion*); PANAMA, Volcan de Chiriqui (*Champion*).

I know of no species of *Lactica* with which the present one may be confounded, on account of the uniform coloration; the latter is in most specimens a fine violaceous blue, changing to greenish in a few others. The typical characters peculiar to the genus are all present, so that the species cannot be identified with some similar coloured ones belonging to allied genera. The thoracic groove is well limited laterally, and the anterior tibiæ are unarmed. A dozen specimens were obtained.

22. **Lactica viridipennis.** (Tab. XVI. fig. 9.)

Elongate, parallel, black below; head, thorax, and legs testaceous; elytra bright metallic green, extremely finely punctured.

Length 1–1½ line.

Head impunctate, frontal tubercles absent; inner margin of the eyes impressed at each side with a small fovea; antennæ two thirds the length of the body, black; first three joints obscure testaceous, third joint double the length of the preceding, fourth as long as the two preceding joints together; thorax narrowly transverse, the sides very slightly rounded, anterior angles obtuse; basal sulcation deep; surface impunctate, light testaceous; scutellum black; elytra parallel, very obsoletely depressed below the base, of a bright metallic green, surface very minutely and rather closely punctured when seen under a strong lens; underside, with the exception of that of the thorax, the prosternum, and the coxæ, black; legs entirely testaceous.

Hab. GUATEMALA, Cerro Zunil (*Champion*).

It will not be difficult to distinguish this small species from *L. specularis*, Har., on account of the colour and fine punctuation of its elytra, and the uniform testaceous legs; in respect of the punctuation the species resembles *L. elegantula*, Har., from which it may, however, be separated by the absence of the tubercles at the head and the testaceous legs. I have before me a dozen specimens, which all agree in the above particulars.

23. **Lactica abdominalis.** (Tab. XVI. fig. 10.)

Subovate, fulvous; antennæ (their basal joints excepted) and abdomen black; elytra metallic bluish green, their base minutely punctured.

Length 1–1½ line.

Head as in the preceding species; antennæ half the length of the body, the three basal joints fulvous, the rest black; third and fourth joints of equal length, about half as long as the second joint; thorax less transverse than in *L. viridipennis* and more narrowed in front, fulvous, impunctate; basal sulcation deep; elytra slightly widened towards the middle, very obsoletely depressed below the base, the latter very minutely punctured, rest of the surface impunctate; scutellum fulvous; breast and legs fulvous; abdomen black.

Hab. BRITISH HONDURAS, river Hondo, Belize (*Blancaneaux*).

I am obliged to separate this species from the preceding one on account of its less parallel shape, the fulvous breast and scutellum, and the less transversely shaped thorax; the joints of the antennæ are also of different comparative length; all these differences are present in the six specimens before me. From *L. elegantula*, Har., the present insect differs in the metallic green elytra, the fulvous legs and breast, and from *L. specularis*, Har., by the same characters.

24. **Lactica obscura.**

Oblong, black; three basal joints of the antennæ, the head, thorax, and legs pale fulvous; elytra black, impunctate.

Length 1 line.

Head with a few punctures round the inner margin of the eyes, the vertex impunctate, frontal tubercles entirely indistinct; antennæ of half the length of the body, black, the three first joints fulvous, second and third joints of nearly equal length, the rest rather short; thorax transverse, very little narrowed in front, the sides nearly straight; surface impunctate, the basal sulcation very distinct, and extending almost across the entire disk, but distinctly bounded at the sides by the longitudinal groove; anterior angles of the thorax obtuse; scutellum black; elytra scarcely widened behind, black, scarcely visibly or microscopically finely punctured, the interstices very slightly rugose near the suture; underside of the thorax, the legs, and tarsi fulvous, the rest black.

Hab. NICARAGUA, Chontales (*Janson*); PANAMA, San Miguel, one of the Pearl Islands (*Champion*).

25. **Lactica elegantula.**

Lactica elegantula, Harold, Col. Hefte, xiv. p. 16 (1875)[1].

Hab. MEXICO, Jalapa (*Höge*).—COLOMBIA [1].

Four specimens obtained by Herr Höge agree so perfectly with von Harold's description, that I must refer them to this author's species. The only difference in the Mexican specimens is the smaller size by one millimetre.

26. **Lactica salvini.**

Oblong-ovate, black; head and thorax violaceous blue, impunctate; elytra cupreous violaceous, the base not raised, entirely impunctate.

Length $1\frac{1}{2}$ line.

Head impunctate, with a distinct but small fovea in front of each eye; frontal tubercles entirely obsolete; carina thickened and much dilated in front; labrum black; antennæ two thirds the length of the body, the third joint one half longer than the second; the apices of the first and second joints fulvous; terminal joints rather slender and gradually thickened; thorax transverse, the sides rounded and narrowly margined, anterior portion rather deflexed at the sides, the angles obtuse; surface impunctate, the basal sulcation deep and rectangular at the sides; scutellum black; elytra rather convex, scarcely widened behind, very obsoletely depressed below the base, impunctate, of a reddish violaceous; underside and legs black.

Hab. GUATEMALA, San Gerónimo (*Champion*).

A single specimen only was obtained.

27. **Lactica pusilla.**

Ovate, slightly widened behind, black below. Three basal joints of the antennæ and legs (the posterior femora excepted) fulvous. Above bluish green; elytra with a basal depression, entirely impunctate.

Length 1–1¼ line.

Head impunctate, with a small fovea in front of the eyes; the frontal tubercles entirely obsolete; carina much widened anteriorly; apex of jaws fulvous; antennæ two thirds the length of the body, the third joint nearly twice as long as the second, terminal joints gradually thickened, piceous, the three basal joints fulvous. Thorax transverse, twice as broad as long, the sides rounded and finely margined; anterior angles obsolete; basal sulcation deep and well limited laterally by the longitudinal groove; surface entirely impunctate; scutellum black; elytra widened towards the middle, the base distinctly raised and depressed below the elevation, the entire surface impunctate, of a bluish-green metallic colour; legs and tarsi fulvous, the posterior femora piceous.

Hab. Mexico, Cordova (*Sallé*).

The small size, fulvous legs, and entirely bluish upper surface without any punctuation will distinguish this species, which has all the typical characters of a true *Lactica*. Three specimens are before me.

28. **Lactica cupreata.** (Tab. XVII. fig. 2.)

Ovate, below black; above metallic reddish cupreous, entirely impunctate; antennæ black, long; elytra with a deep basal depression.

Length 1¾ line.

Head impunctate, with a small fovea in front of the eyes, the latter widely separated; frontal tubercles very obsolete; carina strongly raised and widened in front; antennæ two thirds the length of the body, black, the second joint obscure testaceous below, third and fourth joints of equal length; thorax short, very transverse and rather convex, the sides rounded, anterior angles very obsolete, basal sulcation sinuate and very deep; elytra much widened behind, rather deeply depressed below the base, entirely impunctate, of a bright metallic cupreous colour; entire underside and legs black.

Hab. Mexico (*Sallé*).

The peculiar copper colour of the upper surface in connexion with the more transverse and convex thorax will separate this species from *L. violacea*, Jac., to which it is otherwise closely allied.

29. **Lactica godmani.** (Tab. XVII. fig. 1.)

Ovate, below black; four basal joints of the antennæ, legs, head, and thorax fulvous; elytra metallic reddish cupreous, very finely punctured.

Length 1½ line.

Head with a small fovea near the eyes, extremely finely punctured at the vertex; frontal tubercles very small; carina widened anteriorly; antennæ nearly as long as the body, piceous, the four basal joints fulvous, fourth joint nearly twice as long as the third, rest of the joints very elongate and slender; thorax twice as broad as long, the sides evenly rounded, basal sulcation deep and sinuate; surface impunctate; scutellum obscure fulvous; elytra very slightly widened towards the apex, extremely minutely punctured, of a bright metallic cupreous colour.

Hab. Panama, Peña Blanca (*Champion*).

This pretty little species may be easily known by the bright metallic copper colour of its elytra, dark underside, and fulvous thorax and legs.

30. **Lactica chontalensis.** (Tab. XVI. fig. 22.)

Oblong, slightly widened behind, testaceous; antennæ and legs more or less distinctly piceous; thorax and elytra impunctate, testaceous, a transverse band at the base of the elytra, blackish.

Length 1½ line.

Head impunctate; frontal tubercles small and obsolete; carina distinctly raised, somewhat curved and convex; eyes very light fuscous or testaceous; antennæ half the length of the body, piceous, third and fourth joints of equal length; thorax transverse, of equal width, the sides slightly concave, transverse basilar sulcation moderately deep; scutellum testaceous; elytra rather convex and slightly widened towards the middle, without basal depression, entirely impunctate, the base to nearly the middle occupied by a transverse blackish band which does not quite extend to the basal nor lateral margin.

Hab. NICARAGUA, Chontales (*Janson*).

The two specimens obtained by Janson agree in most essential points, but one of them has the antennæ wanting and the legs of a lighter colour; the eyes are also a little wider apart. The concave sides of the thorax and size and shape of the elytral band will distinguish the species from *L. variabilis*.

31. **Lactica ornata.** (Tab. XVI. fig. 19.)

Ovate, rufous; antennæ (the first two joints excepted) black; elytra impunctate, each elytron with a subquadrate spot at the base, violaceous blue.

Length 1½ line.

Head very minutely punctured, frontal tubercles small and indistinct, carina distinctly raised; antennæ half the length of the body, rather robust, the first two joints rufous, the rest black; thorax transverse, the sides rounded, basal sulcation distinct, but not very deep, surface impunctate; elytra with a shallow transverse depression below the base, of a little lighter colour than the thorax, impunctate with a square-shaped spot extending to the lateral but not to the sutural margin, dark violaceous blue; underside covered with fine silk-like yellowish pubescence; tarsi obscure piceous.

Hab. MEXICO, Puebla (*Sallé*).

Although there is unfortunately only a single specimen of this pretty little species contained in the collection of M. Sallé, it cannot be mistaken for any of its allies on account of its bright and well-marked coloration in connexion with its small size.

32. **Lactica violaceipennis.**

Camœna tibialis, Baly, Journ. of Ent. i. 1862, p. 459, t. 21. fig. 5 [1].

Lactica tibialis, Clark, Journ. of Ent. ii. p. 396 [2].

Lactica violaceipennis, Dej. Cat. 3rd ed. p. 413 [3].

Hab. MEXICO [2].—BRAZIL [1 3].

Clark says that he has received this species from Mexico; I have never seen any specimens from that locality. On account of the specific name *tibialis* having already been used by Olivier for a species of the same genus, I propose to alter Mr. Baly's name to the older one of Dejean.

33. **Lactica binotata.** (Tab. XVII. fig. 3.)

Lactica binotata, Baly, Ent. Monthly Mag. 1876, p. 81 [1].

Hab MEXICO, Teapa [1]; GUATEMALA, Panzos in Vera Paz (*Champion*).

In the type before me (a single specimen) the head is impunctate, with a single small fovea in front of the eyes. The antennæ are rather long and robust; the third and fourth joints are of equal length. The thorax has the sides straight and the sulcation almost interrupted at the middle. The elytra are impunctate, yellowish white, with a single black spot before the middle. The scutellum, knees, tibiæ, and tarsi are black. The general shape of the insect is robust and rather convex. The single specimen obtained by Mr. Champion is stouter and larger than the type, of darker coloration, and with an obscure black spot at each side within the basal sulcation of the thorax; in other respects there is no difference of any importance.

34. **Lactica germari.** (Tab. XVII. fig. 9.)

Broadly ovate, robust, convex; metallic blue or green; antennæ (the first joint excepted) black; thorax transverse, nearly impunctate; elytra with basal depression, scarcely visibly punctured.

Length $2\frac{3}{4}$–3 lines.

Head extremely minutely punctured, the space round the inner margin of the eyes depressed; frontal tubercles scarcely raised; carina strongly raised and widened in front; labrum piceous, margined with testaceous; antennæ two thirds the length of the body, the third joint one half longer than the second, fourth joint as long as the two preceding ones together, terminal joints gradually shortened; basal joint metallic green, the rest black; thorax nearly three times as broad as long, the sides narrowly margined and very slightly rounded, the basal sulcation not strongly impressed, but distinct, and deeply bounded laterally by the longitudinal groove; surface nearly impunctate; scutellum broad, violaceous; elytra widened below the middle, convex and depressed below the base near the suture, extremely finely punctured (visible under a strong lens only) at their anterior portion, the rest impunctate; underside and femora nearly black, with a metallic greenish gloss.

Hab. GUATEMALA, Calderas, Dueñas (*Champion*).

At first sight this species resembles much that of one of the genus *Haltica* or *Diphaulaca*, from the former of which the shape of the thoracic groove and that of the frontal carina distinguish it, while the latter character in connexion with the blunt anterior angles of the thorax and the nearly impunctate elytra will help to separate the insect from the latter genus. Ten specimens were obtained.

35. **Lactica frontalis.**

Below black; above bluish black; lower part of vertex transversely raised; thorax transverse, extremely finely punctured; elytra finely semipunctate-striate.

Length $1\frac{1}{2}$ line.

Vertex of head very finely transversely wrinkled, its lower portion above the eyes transversely raised and limited posteriorly by a slight transverse groove and anteriorly by a deep furrow; frontal tubercles distinct, subtriangular; carina flattened and widened in front; antennæ more than half the length of the body, black, the third joint longer than the fourth; thorax transverse, the sides greatly rounded; anterior angles produced in a short tubercle; basal groove straight, and placed rather closely to the posterior margin, deeply impressed and distinctly limited at the sides; rest of the surface extremely finely punctured, visible only under a strong glass; scutellum black; elytra widened below, the middle much more distinctly punctured than the thorax, slightly depressed below the base, the punctuation anteriorly arranged here and there in indistinct longitudinal rows, the apex more finely and indistinctly punctured.

Hab. GUATEMALA, Dueñas (*Champion*); COSTA RICA, Volcan de Irazu (*Rogers*).

The rather abnormal structure of the head, the groove of the thorax, which is placed close to the posterior margin, and the almost black colour of the entire insect will assist to distinguish it. Five specimens were obtained.

PLECTROTETRA.

Plectrotetra, Baly, Journ. of Entom. i. p. 454 (1862).

The only species constituting up to the present time Mr. Baly's genus is well characterized by the shape of the thoracic groove, which gradually approaches the posterior angles (not being bounded at the sides by a longitudinal groove), by the robust antennæ in the male, and the bifid claws. The type (*P. clarki*) is, moreover, of easy recognition on account of its size and sculpture of the elytra. Many new species, however, have now been obtained by Mr. Champion and Herr Höge, some of which seem to be of very variable punctuation as regards the elytra, and altogether very difficult to separate into species. I have taken as a principal distinctive character the comparative length of the joints of the antennæ in the male, as this seems to be a more constant character than the punctuation of the elytra.

1. **Pletrotetra clarki.** (Tab. XVI. figg. 24, 25.)

Plectrotetra clarki, Baly, Journ. of Ent. i. p. 455 (1862)[1], tab. xxi. fig. 3.
Diphaulaca rugipennis, Sturm, Cat. 1843, p. 282.

Hab. MEXICO, Oaxaca[1], Yolotepec, Capulalpam (*Sallé*); GUATEMALA, San Juan, Sinanja in Vera Paz, Calderas (*Champion*); PANAMA, Volcan de Chiriqui (*Champion*).

This is the largest species of the genus, the male of which may be known by the robust antennæ, the third joint of which is much larger than the fourth; the elytra in the same sex have three or four double rows of punctures, the interstices of which are somewhat convex and broad. In the female the antennæ are much shorter, thinner, and the third and fourth joints are of nearly equal length; the elytra are longitudinally costate, and the interstices finely transversely rugose and punctate; of the ridges, three are generally more raised than the others, wider apart, and somewhat curved, which characters will help to separate the female of the present species from closely allied forms. The specimens from Guatemala are smaller than the Mexican insects, but in other respects similar.

2. **Plectrotetra dohrni.**

♂. Fulvous; antennæ, their basal joints excepted, black; elytra metallic green, strongly and subgeminate punctate-striate, the interstices towards the apex costate.

♀. Elytra more finely and more regularly geminate punctate-striate, each elytron with three more strongly raised costæ, which are depressed posteriorly more or less.

Length 2½ lines.

Hab. Mexico, Jalapa, Playa Vicente (*Höge*).

It will only be necessary to point out the differences between this species and *P. clarki*. The former is smaller, with bright metallic green or sometimes blue elytra; the latter are not so regularly geminate punctate as in the male of *P. clarki*, but the rows of punctures are more strongly impressed and more closely approached, and placed at more regular distances; the antennæ resemble those of the allied species, except that the first three joints in *P. dohrni* are fulvous.

The female is much more difficult to distinguish from that of *P. clarki*, and the only difference I can find besides the smaller size is the flattened or depressed appearances of the three costæ below the middle of the elytra, the space between them having a peculiar opaque appearance, but consisting of finely transverse rugosities as in the allied form.

The present insect was obtained in great numbers, which all agree in the above structural characters, so that I cannot look upon it as only a variety of *P. clarki*.

3. **Plectrotetra submetallica.** (Tab. XVII. fig. 5.)

♂. Fulvous; third joint of the antennæ much longer than fourth; elytra obscure fulvous with a metallic blue gloss, *very finely punctate-striate.*

♀. Elytra with short but highly raised costæ, interrupted anteriorly and posteriorly.

Length $1\frac{3}{4}$–2 lines.

Head impunctate, the frontal tubercles very prominent; antennæ nearly as long as the body, entirely fulvous, or with the terminal joints obscure piceous, the third joint much longer than the second; thorax rather long, about one half broader than long, the sides narrowed from the base to the apex and regularly rounded; surface impunctate, the basal sulcation deep; scutellum fulvous; elytra with a shallow but distinct oblique depression below the base, the latter somewhat raised, surface very finely punctate-striate, the striæ very indistinctly arranged here and there in double rows, the interstices not raised.

Hab. Mexico, Oaxaca, Tuxtla (*Sallé*).

The peculiar half fulvous, half metallic-blue elytra, their fine punctuation, the colour of the antennæ, and principally the distinctly longer thorax, narrowed in front, distinguish well this species from the preceding ones. The female, which I refer to the same species on account of the same coloration and locality, may be known by the different shape of the highly raised costæ, of which three run parallel with the suture at the posterior half of the elytra, but do not extend to the apex nor the base; at the middle of the disk and close to the three sutural costæ is another very short one, preceded laterally by a flattened broad and finely punctured space, the latter of which is again limited near the sides by one or two more elongate ridges.

Ten specimens, all agreeing in the above particulars, are before me.

4. **Plectrotetra regularis.** (Tab. XVII. fig. 6.)

♂. Pale fulvous; antennæ robust, piceous, third and fourth joints nearly equal; elytra fulvous with a slight metallic violaceous gloss, distinctly and regularly geminate punctate-striate.

Length 3 lines.

Head impunctate, with highly raised frontal tubercles, deeply transversely grooved behind the latter as usually;

antennæ more than two thirds the length of the body, very robust, the third and three following joints of almost equal length, piceous, the basal joint fulvous; thorax transverse, of equal width, the sides regularly rounded, surface impunctate, the basal sulcation deep; elytra with the basal portion distinctly raised, bounded below by an oblique depression of darker colour than the thorax, with a very slight bluish gloss, the disk with four double rows of distinct punctures, the interstices of which are rather wider than the rows of punctures and only very slightly raised towards the extreme apex; knees and base of the tibiæ piceous, the two anterior pairs with the usual apical spine; tarsi greatly dilated.

Hab. GUATEMALA, Panima in Vera Paz (*Champion*).

The only specimen before me differs sufficiently from *P. clarki* and *P. dohrni* to be considered another species. The structural character of the antennæ, the regularly geminate striæ of the elytra and their flat interstices, will, without difficulty, separate it.

5. **Plectrotetra proxima.** (Tab. XVII. fig. 4.)

♂. Fulvous; antennæ very robust, third joint much longer than the fourth; elytra violaceous blue, very closely subgeminate punctate-striate; intermediate femora with a strong tooth.

Length 2½ lines.

Head impunctate, of the usual structure; antennæ nearly as long as the body, very robust, the third joint very long, the following ones gradually decreasing in length, all the joints covered with fine but rather long hairs at their inner side; thorax transverse, twice as broad as long, the sides much rounded, anterior angles slightly produced in a very short tooth; elytra with about ten double rows of closely placed and very distinct punctures, their interstices slightly costate towards the apex; legs and tibiæ very robust, and the latter as well as the tarsi greatly dilated, the intermediate femora with a robust tooth.

Hab. PANAMA, Bugaba (*Champion*).

The close punctuation of the elytra in connexion with the robust antennæ and the toothed intermediate femora distinguish this species well from the preceding ones. A single specimen was obtained.

6. **Plectrotetra monstrosa.** (Tab. XVII. fig. 8.)

♂. Fulvous; antennæ piceous, the basal joint fulvous; third and fourth joints subequal; elytra violaceous blue, closely punctate-striate; intermediate tibiæ without spine; intermediate femora with a long lateral projection at each side.

Length 2½ lines.

Head impunctate; antennæ nearly as long as the body, very robust, the third joint scarcely longer than the fourth; thorax longer than usual, not more than one half broader than long, the sides rounded, the anterior angles not produced, surface rather convex, impunctate, the basilar groove very thin, sometimes indistinct; elytra with about ten distinct and closely placed rows of double punctures, the interstices scarcely convex; tibiæ unarmed; tarsi not much dilated; a long spiniform and pointed process is attached to each side at the base of the intermediate femora, protruding beyond the elytra, and visible even from above.

Hab. NICARAGUA (*coll. Jacoby*), Chontales (*Janson*).

The most peculiar femoral process, unlike any thing I am acquainted with amongst the Phytophaga, and the unarmed tibiæ, will easily separate this species from its allies. Three males, all of them possessing the above structural characters, are before me; the female I am not acquainted with. As this long spiny protuberance is attached to

the extreme base of the femora, it follows of course that the insect can move it downwards or sideways with the movements of the legs; in the usual position of the latter, the process forms a right angle with the mesosternum, and projects beyond the elytra.

7. **Plectrotetra basalis.**

♂. Fulvous below; antennæ piceous or black, third and fourth joints equal; elytra metallic green or bluish, the base strongly raised, very closely punctate-striate, the sides irregularly punctured; intermediate tibiæ with a spine.

♀. Interspaces of the elytra slightly costate.

Length 2 lines.

Hab. GUATEMALA, Sinanja in Vera Paz (*Champion*).

The specific differences to be seen in this species are as follows:—the antennæ, which are pubescent at the sides in the male, are nearly black, with the exception of the first joint, which is more or less fulvous, the third and fourth joints are of *equal* length; the elytra have the base distinctly raised and bounded below by a transverse depression, and the punctuation is arranged in closely approximating rows, which near the suture assume sometimes an appearance in pairs, but are extremely closely and irregularly arranged near the sides, where the interstices are finely transversely wrinkled, which is best seen when the insect is viewed sideways; at the extreme apex only a few scattered punctures are seen; the male has the usual spine near the apex of the last two pairs of tibiæ.

The female from the same locality differs only in the more strongly punctured elytra, the interstices of which are slightly costate anteriorly, and in the thinner antennæ and absence of the spines at the tibiæ.

8. **Plectrotetra chiriquensis.** (Tab. XVII. fig. 7.)

♂. Fulvous; antennæ thin, third and fourth joints equal; elytra obliquely depressed below the base, greenish or bluish, closely punctate-striate, the interstices flat; sides more irregularly and closely punctured.

♀. Antennæ and legs often piceous or black; elytra deeply geminate punctate-striate, the interstices slightly costate.

Length $1\frac{3}{4}$–$2\frac{1}{4}$ lines.

Hab. PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).

In the male of this species the antennæ are thin and slender, not pubescent, entirely fulvous, and the third and fourth joints are of equal length, in which respect they resemble *P. basalis*; the elytra have the base less distinctly raised and rather more finely punctured; the punctures are closely approached, and show only traces of double rows here and there. In the female the rows of punctures at the elytra are still more closely approached, more deeply impressed, and the interstices more or less distinctly costate.

From *P. basalis* the present species differs in the more slender and entirely fulvous

antennæ and in the less elevated base of the elytra. As I have many specimens before me which all resemble each other, and the locality is also a different one, I have thought it best to separate the insect from *P. basalis*.

9. Plectrotetra guatemalensis.

♂. Fulvous; third and fourth joints of the antennæ equal; elytra bluish green, finely geminate punctate-striate, the interstices flat.

♀. Elytra more strongly punctured, the third and fourth interstices longitudinally costate.

Length 2 lines.

Head and thorax impunctate, the latter transverse, of usual shape, the anterior angles slightly produced, the basal groove deep; antennæ rather robust and of nearly the length of the body in the male, the third and fourth joints equal, entire antennæ fulvous; elytra with four double rows of fine punctures extending to the apex, the interstices rather broader than the space occupied by each double row of punctures, flat; intermediate tibiæ with a distinct spine.

♀. Elytra with several longitudinal costæ, at the sides of which two are more highly raised and distinct than the others, surface more strongly punctured; terminal joints of the antennæ piceous.

Hab. GUATEMALA, Zapote (*Champion*).

P. guatemalensis cannot be mistaken for any of the preceding species on account of the four double rows of punctures of the elytra. *P. clarki*, which has the same kind of punctuation, is much larger, and has quite different antennæ, the latter in the present species being much less robust, and the third and fourth joints equal.

10. Plectrotetra sallæi.

♂. Fulvous; antennæ robust, third joint much longer than fourth; elytra violaceous blue, rather strongly punctate-striate, the punctures forming *single* rows, interstices slightly costate.

♀. Antennæ with the third and fourth joints equal, the rest piceous; elytra deeply punctate-striate, the interstices regularly and strongly costate.

Length $2\frac{1}{2}$ lines.

Hab. MEXICO, Tuxtla (*Sallé*).

In the robust antennæ, of which the third joint is much longer than the fourth, the present species agrees with *P. clarki* and *P. proxima*, from both of which it is distinguished, as well as from others described here, by the punctuation of the elytra, which is arranged in single, regular, and closely approached rows, the interspaces being slightly costate near the suture and the apex; the base of the elytra is also slightly raised.

Female specimens from the same locality which I refer to this species have the interstices regularly costate, and the punctures between them here and there doubled, which is especially noticeable at the sides, where the costæ separate a little more than at the disk. The strongly raised and regularly placed costæ will separate the female of this species from that of *P. basalis*, the latter of which has the base of the elytra much more strongly raised.

11. Plectrotetra flohri.

♂. Fulvous; terminal joints of the antennæ piceous, their third and fourth joints equal; thorax rather convex, the posterior angles not produced; elytra dark blue, each elytron with four deeply impressed and closely approached double rows of punctures, the interstices costate near the suture and apex; anterior tarsi dilated; intermediate tibiæ with an acute spine.

Length 2¼ lines.

Hab. MEXICO, Michoacan (*Flohr*).

The single male specimen kindly sent to me by Mr. Flohr differs again from its allies in the rather feeble and short antennæ, which have the third and fourth joints of equal length and the following joints rather shorter. The elytral punctuation is strong and closely approached, although the double rows are not difficult to see, while the interstices are equally distinctly costate, although not acutely raised—that is, not forming sharp ridges. The antennæ in this species approach more those of a female; the structure of the tarsi and tibiæ, however, proves the specimen to be a true male.

12. Plectrotetra inæqualis.

♂. Fulvous; antennæ, their two basal joints excepted, black; third and fourth joints equal; elytra violaceous, geminate-punctate striate at the disk, the sides more irregularly punctured and costate.

♀. Metallic green.

Length 2¼ lines.

Hab. MEXICO, Toxpam, Capulalpam (*Sallé*).

Although the present insect seems to me a somewhat doubtful species, I must separate it from those with which it has in common the structure of the antennæ, on account of its different elytral punctuation. The latter is arranged as follows:—two double rows of punctures are placed on the disk near the sutural portion, the suture itself being accompanied by another row of anteriorly double but posteriorly single punctures; these double rows have often extra punctures placed close to them, which gives them sometimes the appearance of consisting of three lines; towards the sides the punctuation becomes irregular, subrugose, and stronger, and the interstices are distinctly but not acutely costate. A single female specimen from Capulalpam agrees perfectly with the male in the elytral sculpture, but the colour of the elytra is metallic green, and the antennæ are nearly entirely black; in the male the latter are scarcely thicker at the base than at the apex, slender and long.

13. Plectrotetra nigripes.

♂. Below and the legs and antennæ black; third joint of the latter much longer than the second; head and thorax fulvous; elytra dark violaceous blue, strongly subgeminate punctate-striate.

Length 2 lines.

Hab. GUATEMALA, Dueñas (*Champion*).

In this species the antennæ have more of the typical structure than is the case in many others, the basal joints being robust, and the terminal ones gradually tapering

towards the apex; the third joint is also of nearly twice the length of the second. The elytra have distinct and closely approximating rows of punctures, which are arranged in pairs from the third row, the first three sutural rows consisting of single punctures only; towards the apex the interstices are slightly convex; the underside and legs are black, which will further help to distinguish this species.

Two female specimens from the same locality differ in having the first three or four joints of the antennæ fulvous, and the punctures at the sides of the elytra rather more strongly impressed and the interstices rugose; but these females are scarcely to be distinguished from those of *P. chiriquensis*, with which they may possibly be identical.

14. **Plectrotetra rugosa.**

♂. Fulvous; antennæ slender, third and fourth joints equal; elytra bluish green, rugose-punctate, the interstices longitudinally costate.

♀. Elytra more strongly punctured and costate, each elytron with three more highly raised costæ.

Length 2–2¼ lines.

Hab. Mexico, Guanajuato (*Sallé*); Guatemala (*coll. Jacoby*); Panama, Bugaba (*Champion*).

The only species with which the present one can be compared is *P. clarki*, which somewhat resembles it in the elytral sculpture; the latter in *P. rugosa* is, however, still more coarse and irregular, and the punctures are not so regularly arranged in lines, the interstices are nearly everywhere transversely rugose and interrupted by numerous more or less distinctly raised longitudinal costæ; the antennæ are, however, quite distinct from *P. clarki*; they are not robust nor thickened at the base, shorter, and the third and fourth joints are of equal length *. In the female the elytra are rather more strongly punctured, and of the costæ three more highly raised than the others are visible near the sides. The Mexican specimens differ in their smaller and more parallel size and the less rugosely punctate elytra; but the differences do not seem sufficient to be considered specific, as in other respects they agree with the Guatemalan insects.

15. **Plectrotetra hirsuta.**

♀. Fulvous; antennæ slender, third and following joints equal; elytra obscure metallic green, subopaque, closely and finely pubescent, geminate punctate-striate, the extreme apex slightly excavated.

Length 2 lines.

Hab. Panama, Volcan de Chiriqui (*Champion*).

The two female specimens obtained by Mr. Champion are easily distinguished by the fine and close greyish pubescence which covers principally the distal two thirds of the elytra, and gives to the latter an opaque appearance; the base is not raised, and more shining than the rest of the surface; near the sutural margin the interstices are slightly convex; the extreme apex is, however, devoid of any costæ, and has only a few punctures,

* The tarsi are as usually much dilated, and the intermediate tibiæ are armed with a long spine.

while the space close to the suture at the same place is somewhat hollowed out, the sutural margin at the same time being distinctly raised. In other respects the species has nothing to distinguish it from many others of its allies.

For the easier determination of the species described here, the following diagnosis may be useful:—

1. Antennæ with the third joint distinctly longer than the fourth.

♂. Elytra with four double rows of punctures; ♀, elytra longitudinally costate . *clarki.*
„ Elytra simply and strongly punctate-striate, interspaces costate at the apex and sides . . . . . *dohrni.*
„ Thorax longer, elytra extremely finely punctate-striate . . . . . *submetallica.*
„ Elytra very closely and finely geminate punctate-striate . . . . . *proxima.*
„ Elytra finely and regularly punctate-striate, interstices not costate . . . *sallæi.*
„ Elytra closely punctate-striate, underside and legs black . . . . . *nigripes.*

2. Antennæ with the third joint as long as or scarcely longer than the fourth.

„ Intermediate femora with a long projecting appendix . . . . . *monstrosa.*
„ Elytra with the base much raised, closely geminate punctate-striate . . . *basalis.*
„ Elytra with four double rows of fine punctures, size 2 lines . . . . . *guatemalensis.*
„ Elytra closely and simply punctate-striate . . . . . *chiriquensis.*
„ Elytra with four double rows of punctures, the sides costate . . . . . *flohri.*
„ Elytra with the interstices transversely wrinkled . . . . . *rugosa.*
„ Antennæ scarcely thickened at the base; elytra geminate punctate at the disk, irregularly at the sides . . . . . *inæqualis.*
♀. Elytra covered with fine pubescence . . . . . *hirsuta.*
♂. Elytra semifulvous, geminate punctate, size 3 lines . . . . . *regularis.*

PHRYNOCEPHA.

Phrynocepha, Baly, Journ. of Entom. i. p. 201 (1861).
Romalocera, Dejean, Cat. 3rd ed. p. 413.

The rather large size and robust general appearance of the Central-American species upon which this genus was founded makes the latter comparatively easy to distinguish. The antennæ are extremely robust and tapering towards the apex in the male, the thoracic impression is rather obsolete, and the tibiæ are very deeply channelled at their outer side. Another species has been described from Paraguay.

1. **Phrynocepha pulchella.** (Tab. XVII. fig. 24.)

Phrynocepha pulchella, Baly, Journ. of Entom. i. p. 201, t. 9. fig. 8[1].
Romalocera forticornis, Dejean, Cat. 3rd ed. p. 413[2].

Hab. MEXICO [1 2], Guanajuato (*coll. Sallé*), Oaxaca (*Höge, Sallé*); GUATEMALA (*coll. Sallé*).

Only two specimens from the last-named locality are contained in the Sallé collection; Mr. Champion did not met with this insect.

2. Phrynocepha deyrollei.

Phrynocepha deyrollei, Baly, Trans. Ent. Soc. 1876, iii. p. 444 [1].

Hab. MEXICO [1], Guanajuato, Yolotepec, Capulalpam, La Parada, Oaxaca, Puebla (*coll. Sallé*); GUATEMALA (*coll. Jacoby*).

The smaller size (less than half), black underside, and more finely punctured elytra distinguish this species from *P. pulchella.* The typical description was drawn from a single male specimen contained in the collection of Mr. Baly. The female insect, of which many specimens, together with the other sex, are contained in the collection of M. Sallé, shows the same proportionate differences as in the case of *P. pulchella,* and some of these specimens have the elytra obsoletely costate throughout; others again are more bluish in colour and not so opaque as in the type, but there are scarcely any other differences to be found to justify their separation.

3. Phrynocepha elongata. (Tab. XVIII. figg. 1, 2.)

♂. Elongate, blackish blue below; four first joints of antennæ, head, thorax, and legs fulvous; elytra dark blue, opaque, impunctate; tarsi dilated.

♀. Larger and broader, tarsi more elongate; antennæ more robust.

Length 3–3½ lines.

Head deeply rugose-punctate, with a triangular, medially depressed ridge at the vertex; frontal tubercles strongly raised, elongate; antennæ half the length of the body, not thickened at the base, the third and fourth joints of equal length; four lower joints, and the base of the fifth, fulvous, the rest black; thorax narrowed in front, the sides much rounded at the middle, surface very finely and rather closely punctured, middle of the disk obsoletely longitudinally raised, the sides and the base with some very obsolete depressions; scutellum black; elytra parallel, elongate, opaque, entirely impunctate, of a dark bluish colour; tarsi very broadly dilated.

Hab. MEXICO, Cordova (*Sallé*), Oaxaca (*Höge*).

Although in its general appearance this species does not much resemble the preceding two, I have no doubt about its proper place in this genus; it differs, however, in the shape of the antennæ, which are not widened at the base, but of equal thickness, and in the less dilated tibiæ; in other respects, the elongate head, small eyes, and shape of the thorax are identical with those of its allies. *P. elongata* may at once be separated by the equal third and fourth joints of the antennæ, their colour, and by the elongate shape of the insect. In the female the joints of the antennæ are much more robust and shortened, and the tarsi more elongate, but there is no other difference of any importance to be seen. The basal thoracic groove in this insect is almost absent, or only very indistinctly indicated, in which it differs therefore from *P. pulchella.*

4. **Phrynocepha lævicollis.** (Tab. XVIII. fig. 3.)

Breast and abdomen black; head, thorax, and legs fulvous; apical joints of antennæ black; thorax impunctate; elytra dark greenish, extremely finely punctured and granulose.

Length 2 lines.

Hab. GUATEMALA, San Gerónimo 3000 feet (*Champion*).

Rather smaller than *P. deyrollei*, and at once distinguished by the more convex, somewhat longer, and entirely impunctate thorax; the third joint of the antennæ is proportionately longer than in the allied species, and the last four joints only are black. The single specimen before me is a male, which has the tarsi dilated as usual and of piceous colour.

5. **Phrynocepha capitata.**

Oblong-ovate, bluish black below; three basal joints of the antennæ, head, thorax, and legs fulvous; tarsi piceous; elytra bluish green, opaque, granulose, each elytron with a short lateral costa.

Length 3 lines.

Head nearly twice as long as broad, with a few fine punctures in front of the eyes; antennæ closely approached, the space between very narrow and occupied by the acutely raised carina; antennæ half the length of the body, three lower joints fulvous, the rest black; third joint nearly three times as long as the second; thorax narrowed in front, extremely finely rugose-punctate, the basilar groove obsolete but distinctly visible; elytra widened towards the middle, opaque, not visibly punctured, with a narrow costa from the shoulder to before the middle, where it becomes obsolete.

Hab. MEXICO, Tuxtla (*coll. Sallé*).

The elongate head and the elytral costa well separate the present species from its allies; in other respects it also differs in the less dilated tibiæ; it has nevertheless the general shape and structural characters of the present genus. Two specimens before me agree in every respect.

6. **Phrynocepha intermedia.**

Below black; antennæ, head, thorax, and legs fulvous; elytra greenish æneous, opaque, finely granulate and impunctate.

Length 2 lines.

Head rugose-punctate, the vertex with a triangular raised smooth space; antennæ more than half the length of the body (♂), shorter in the female, entirely fulvous, the third joint one half longer than the second; thorax transverse, scarcely narrower in front than at the base, surface extremely finely punctured, opaque, the base with a very obsolete transverse depression not extending to the margin; elytra narrow, parallel, of a greenish opaque colour, very minutely granulate and impunctate; posterior femora strongly incrassate; tibiæ scarcely dilated and feebly channelled.

Hab. MEXICO, North Sonora (*Morrison*).

In comparing this species with *P. elongata* the following differences are to be found: the present insect is smaller, the colour of the elytra in all the specimens being a dark silky green; the thorax is much more transverse and less narrowed in front, also more minutely punctured, and the tarsi in the male insect only slightly dilated. Neither the present species nor *P. elongata* have the typical appearance of *P. pulchella*; but

although the generic characters are less strongly developed, they are present, an justify the place of these species in *Phrynocepha*.

HALTICA.

Altica, Geoffroy, Hist. Nat. Ins. i. 1762, p. 244.
Graptodera, Chevrolat, Dej. Cat. 2nd edit. (1834).

In trying to determine the Central-American species belonging to this genus the greatest difficulties are encountered, which are almost impossible to overcome. Nearly a hundred similarly coloured species have been already described from all parts of the world resembling each other to a greater or less degree; many of these have only been diagnosed, making it impossible to determine the species with certainty; others not belonging to the genus have been sometimes included, the genus *Haltica* having been often used as a kind of receptacle for doubtful species, in the same way as the genus *Galeruca* amongst the subfamily Galerucinæ. Von Harold in trying to name some Colombian species of *Haltica* has found the same difficulties (Stettin. ent. Zeit. 1875). It is my opinion that without every type, European or exotic, for comparison, no certainty as regards the species can be arrived at, as, for example, I have before me species which I am unable to distinguish from *H. oleracea* or *H. coryli* of Europe. Under these circumstances I have refrained from naming amongst the Central-American species several smaller forms of which I can form no satisfactory opinion for the present. Some of the larger species I have attempted to determine, in one or two instances not entirely without doubt.

The genus, as remarked above, is represented, as it seems, over the greater part of the world, not more than about six species having up till now been described from Central America. The greater part of the species are of a uniform metallic blue or green, and extremely closely allied. Chapuis errs when he describes the tibiæ as *not* channelled; they are, especially the intermediate ones, in many species provided with a distinct longitudinal and deep groove.

1. **Haltica patruelis.** (Tab. XVII. fig. 11.)

Haltica patruelis, Harold, Stett. ent. Zeit. 1875, p. 63.
Graptodera patruelis, Sturm, Cat. 1843, p. 282.

Hab. MEXICO, Huatusco, Capulalpam, Peras, La Parada, Guanajuato, Puebla (*coll. Sallé*), Las Vigas (*Höge*).

This is a species not very difficult to recognize on account of the following characters:—the entire upper surface is of a uniform very dark violaceous and opaque colour, caused by the extremely fine and scarcely visible punctuation. The elytra are also without any longitudinal costæ. It is only in some specimens that the head and thorax are slightly more shining than the elytra, and that the latter as well as the

former are a little more distinctly punctured. Amongst twenty-five specimens from the above localities a single one from the collection of Sturm, and labelled by this author with the name *G. patruelis*, guarantees the identification of this insect, with which the description of von Harold agrees in the main point.

2. **Haltica jamaicensis.** (Tab. XVII. fig. 15.)

Galleruca jamaicensis, Fabr. Ent. Syst. 1. 2. p. 16 (1792)[1].
Galleruca plebeja, Oliv. Ent. vi. p. 626, tab. 2. f. 27 (1808)[2].
Graptodera tarsata, Sturm, Cat. 1843, p. 281[3].
Galleruca bassiæ, Fabr. Ent. Syst. iv. Ind. Alph. 1796, p. 69[4]; Syst. Eleuth. i. p. 484[5].

Hab. Costa Rica (*van Patten*), Volcan de Irazu, river Sucio (*Rogers*); Panama, Bugaba (*Champion*).—West Indian Islands [1 2 3 4 5].

Although the description given by von Harold of this species does not quite agree with the very numerous specimens before me, and obtained at the localities mentioned above, the differences are not such as to induce me to venture upon the erection of another species in this most difficult genus. The following is I think, however, necessary to point out:—More than thirty specimens from Costa Rica are of a metallic coppery, not violaceous colour; these are all females, and have an acutely raised longitudinal costa extending from the shoulder to below the middle of the elytra; others, equally numerous, are of a fine violaceous or bluish colour; in these, the males, the elytral costa is only indicated. In none of von Harold's descriptions are the sexes indicated, which seems to me a most necessary point, as the absence or presence of elytral costæ are one of the guides in the determination of the species, or have at least been used as such. In other respects the Costa-Rica specimens agree very nearly with von Harold's description, and with some specimens from St. Domingo contained and named in the collection of Mr. Baly. It seems that von Harold had only male specimens for his description, as he makes no mention of the acute and strongly raised costa in the female. All doubt is, therefore, not excluded as to the real identity of the Costa-Rica specimens with Fabricius's species, which has not been hitherto recorded from Central America. In the species under consideration the thorax has the space behind the transverse groove more or less closely and finely, sometimes even indistinctly, punctured; the same is the case with the elytra.

3. **Haltica amethystina.** (Tab. XVII. fig. 12.)

Altica amethystina, Olivier, Ent. vi. p. 687, tab. 2. fig. 31[1]; Harold, Stett. ent. Zeit. 1875, p. 67[2].

Hab. Mexico, Tuxtla, Chapas (*Sallé*); British Honduras, river Sarstoon (*Blancaneaux*); Guatemala[2] (*Sallé*), Dueñas, Capetillo, Zapote, San Gerónimo, Purula, Senahu, Cerro Zunil (*Champion*); Panama, San Feliz (*Champion*).—Colombia[2]; Venezuela[2]; San Domingo.

The specific value of this species in regard to *H. jamaicensis* is not well established (see v. Harold, Stett. Zeit. *l. c.*). As the colour of all my numerous specimens agrees with that given by Olivier, and the locality also with the one mentioned by Harold, I have referred these specimens to *H. amethystina*. The space below the thoracic groove is extremely finely, sometimes indistinctly, punctured, in which respect the insect agrees also with the description given by von Harold. The figured specimen is from Guatemala from the Sallé collection.

4. **Haltica bimarginata.**

Altica bimarginata, Say, Journ. Ac. Phil. iv. 1824, p. 85[1].
Haltica ambiens, Leconte, Col. of Kansas, 1859, p. 25[2].
Graptodera carinata, Sturm, Cat. 1843, p. 282[3].
Graptodera plicipennis, Mannerh. Bull. Mosc. 1843, ii. p. 310[4].
Haltica prasina, Lec. Rep. Surv. Pacif. 1857, p. 67[5].

Hab. North America[1 2 3 4 5].—Mexico (*coll. Sallé, Jacoby, Baly*), Jalapa (*Höge*); Guatemala (*coll. Jacoby*).

Although I have no North-American specimens to compare, and the locality of this species has up till now been recorded as North-American, the Central-American specimens before me agree well enough with the descriptions of the above authors to identify them. A well-marked characteristic which both males and females possess is the strongly developed lateral costa of the elytra, which curves round towards the suture near the apex. The species is much smaller than *H. complicata*.

5. **Haltica mexicana.** (Tab. XVII. fig. 13.)

Convex, narrowed behind; dark violaceous blue, shining; thorax impunctate; elytra with strong basal elevation, nearly impunctate.

Length 3 lines.

Head impunctate; frontal tubercles very distinct and well limited; carina short and rather flattened; antennæ slender, more than half the length of the body, bluish black, closely and finely pubescent, the basal joint more metallic blue, the fourth joint very slightly longer than the third; thorax very nearly square-shaped, scarcely broader than long, the lateral margin rounded in front, nearly straight at the base, the basal sulcation very distinct, sinuate, and of usual shape, the space in front and behind it impunctate or scarcely visibly punctured; elytra convex, narrowed, and pointed towards the apex, the latter, however, rounded and not produced, the base strongly raised and depressed below this elevation, the shoulders prominent; legs covered with thin greyish pubescence, the first joint of the tarsi very elongate.

Hab. Mexico, Cuernavaca (*Sallé*).

Of this species six specimens are before me. From those in which the elytra are entirely devoid of costæ the present species differs in its convex and posteriorly narrowed shape, and in the almost total absence of any punctuation on the upper surface. In some specimens, which may be of the female sex, there is an extremely fine punctuation visible when seen under a strong lens, but in all others the elytra are impunctate. Another structural character may be found in the elongate and slender first joint of the tarsi.

6. Haltica rugicollis.

Ovate, subdepressed; dark violaceous, opaque; antennæ long, black; thorax rugose-punctate; elytra impunctate, obsoletely longitudinally costate.

Length $1\frac{1}{2}$ line.

Head rugosely punctate above the eyes; frontal tubercles small and oblong; carina absent or only indicated by a small tubercle; clypeus triangular, very flat and finely rugose; antennæ slender, two thirds the length of the body, the fourth joint one half longer than the third; thorax transverse, the sides moderately rounded, basilar groove very indistinct; surface closely rugose and punctured; scutellum impunctate; elytra slightly widened posteriorly, entirely impunctate and of an opaque dark violaceous, the entire surface obsoletely but still distinctly costate, the interstices extremely finely granulate; underside and legs more shining, the latter clothed with yellowish pubescence.

Hab. MEXICO, Yolos, Totosinapan (*coll. Sallé*).

It will not be very difficult to distinguish this species by its entirely opaque colour and the rugose head and thorax, as well as by the obsolete costæ on the elytra, and its generally small size. A single specimen from Yolos has the thorax less rugose and slightly more shining, but differs in no other respect whatever. Except in the usual dilatation of the tarsi in the male the sexes are not otherwise distinguished.

7. Haltica forreri.

Below black; carina acute; thorax black with a few fine punctures, the lateral groove abbreviated; elytra dark violaceous blue, finely punctate-striate, the apex impunctate.

Length $1\frac{3}{4}$ line.

Head impunctate at the vertex, transversely grooved between the eyes; the latter large; frontal tubercles large and broad, occupying nearly the entire space between the eyes, limited behind by the transverse groove and a row of punctures; carina acutely raised, rather long and somewhat curved; antennæ half the length of the body, black, third joint nearly twice as long as the second, fourth slightly longer than the third; thorax not much broader than long, the sides narrowed near the base and apex, the middle rounded; basilar groove deep, rather distantly placed from the posterior and not extending to the lateral margin; surface with a few scarcely visible punctures near the anterior angles and below the basal sulcation; scutellum triangular, black; elytra parallel, very dark blue, finely, closely, and rather regularly punctate-striate, the punctuation invisible near the apex; underside and legs black, covered with fine greyish pubescence; posterior first tarsal joint as long as the two following together.

Hab. MEXICO, Ventanas (*Forrer*).

8. Haltica guatemalensis.

Elongate, parallel; obscure greenish cupreous, subopaque; thorax extremely finely punctured; elytra very minutely granulate, disk obsoletely punctured, sides with two distinct costæ.

Length $2\frac{1}{2}$–3 lines.

Head rugosely punctate between the eyes, the vertex impunctate; frontal tubercles strongly raised, semi-quadrate, the carina short but acute; antennæ more than half the length of the body, bluish black, the terminal joints black, the fourth joint slightly longer than the third; thorax slightly broader than long, the sides but little rounded at the middle, basal groove deep and not extending quite to the sides, surface with an obsolete oblique depression at each side below the anterior margin, covered, as well as the space behind the thoracic groove, with minute punctures; elytra elongate and parallel, of a subopaque light greenish or brownish cupreous colour, the entire surface minutely granulate, the sides with two distinct and well-marked longitudinal costæ, which do not join at their ends, and are preceded by one or two other but very indistinctly marked costæ, more strongly visible in the female than in the male insect, the apex of each elytron broadly rounded.

Hab. GUATEMALA, Quiche Mountains (*Champion*).

From the species described possessing elytral costæ, the present one is separated by its smaller, elongate, and parallel shape, the cupreous colour, and finely granulate upper surface, as well as by the fine and rather even punctuation of the thorax. Ten specimens were obtained by beating a species of *Alnus*.

9. **Haltica brevis.** (Tab. XVII. fig. 19.)

Haltica brevis, Harold, Coleopt. Hefte, 1875, xiv. p. 25 [1].

Hab. PANAMA, Bugaba (*Champion*).—COLOMBIA [1].

The two specimens obtained at Panama agree so perfectly with von Harold's description that I must refer them to the above species. The short, convex, subrotundate shape prevents the insect from being confounded with most of the allied species, the nearest of which seems to be *H. facialis*, Baly, which differs, however, from the present in the scarcely visibly punctured elytra and the much less transverse thorax. The Panama specimens are a little smaller than the size given by its describer, but agree in all other respects.

10. **Haltica flavicollis.**

Elongate, parallel; below black; head, thorax, basal joints of antennæ, and the legs flavous; elytra dark violaceous, closely punctured.

Length $2\frac{1}{2}$–$2\frac{2}{3}$ lines.

Head impunctate and rather swollen; frontal tubercles strongly raised and triangular; carina extremely short; antennæ more than half the length of the body, all the joints, with the exception of the second one, elongate, the third and fourth of equal length, the two basal joints flavous, the rest fuscous, pubescent; thorax transversely convex, the sides distinctly narrowed at the base and widened at the middle, anterior angles tuberculiform; the basal groove deep and continuing upwards at the sides, the space anteriorly and posteriorly of this groove impunctate and much swollen; scutellum flavous; elytra parallel, violaceous blue, rather finely but very closely punctured, with a few shallow and indistinct longitudinal depressions near the sides; space below the base not depressed; elytral epipleuræ broad, continuing to the apex, their surface transversely wrinkled; legs flavous, the posterior femora strongly incrassate, the tibiæ simple; last abdominal segment of the male with a very deep longitudinal excavation of flavous colour, that of the female simple.

Hab. MEXICO (*coll. Jacoby*), Cuernavaca (*Sallé*).

In several respects this species differs from others of the genus; the coloration, simple tibiæ, and more strongly incrassate posterior femora are not generally found in *Haltica*. The deep longitudinal excavation to be seen in the last abdominal segment in one of the specimens, which I consider the male, is another peculiarity. The species has nevertheless the general "habit" of a true *Haltica*, and the thoracic groove is also exactly similar to those of the allied species. I only know of two specimens, the one contained in my own, the other in the collection of M. Sallé.

11. **Haltica parvula.** (Tab. XVII. fig. 16.)

Ovate, convex; below black; first four joints of the antennæ, head, thorax, and four anterior femora fulvous; elytra blackish blue, very finely semipunctate-striate.

Var. Legs entirely black.

Length 1½ line.

Head impunctate; frontal tubercles in shape of a transverse oblique ridge; carina short and acutely raised; antennæ quite half the length of the body, black, the four basal joints fulvous; first joint rather slender and curved, second and third joints of equal length, the terminal joints more elongate and slightly thickened, thorax only slightly broader than long, rather strongly convex, the sides nearly straight, deflexed anteriorly, the angles not produced; surface in front and behind the basilar sulcation entirely impunctate, the latter deep, slightly curved and limited at the sides by a very short longitudinal fovea or groove, beyond which the sulcation is extending upwards near the lateral margin; scutellum black; elytra convex, without any basal depression, extremely finely and closely punctured, the punctuation arranged indistinctly in lines, the extreme apex nearly impunctate; underside and legs, with the exception of the four anterior femora, black.

Hab. GUATEMALA, San Juan in Vera Paz (*Champion*); PANAMA, Volcan de Chiriqui (*Champion*).

This is evidently another of those small species deviating from *Haltica* somewhat by the shape of the thoracic groove, of which several others, similarly structured, have been described by von Harold in his 'Coleopterologische Hefte.' *H. parvula* seems very closely allied to *H. læviuscula*, Har.; but as all the specimens, to the number of ten, differ in the colour of the legs, which von Harold describes as red (with the exception of the posterior femora), and in the shape of the frontal tubercles, as well as in the want of an elytral elevation at the base, I must consider this species a different one.

12. **Haltica minuta.** (Tab. XVII. fig. 17.)

Oblong, convex; antennæ, underside, and legs black; above bluish green; thorax long; elytra without basal elevation, distinctly punctured.

Length 1 line.

Head impunctate; frontal tubercles in shape of two transversely oblique narrow ridges; carina acutely raised, widened in front; clypeus bounded above by an oblique very deep and somewhat sinuate groove; antennæ half the length of the body, the first joint slender, elongate, second scarcely shorter than the third and following joints; thorax nearly as long as broad, surface very convex and swollen, the lateral margin nearly straight and only slightly rounded near the anterior angles; basilar groove deeply impressed, limited at each side by a small but distinct fovea and continued beyond the latter upwards; space below the groove, like the rest of the surface, entirely impunctate; elytra without any trace of a basal depression, more or less distinctly and closely punctured, the punctuation arranged in rather regular lines.

Hab. MEXICO, Jalapa (*Höge*); PANAMA, Volcan de Chiriqui (*Champion*).

This is one of the smallest species with which I am acquainted, and seems to form one of the group described by von Harold, in which the thoracic groove has a longitudinal fovea at each side, beyond which the former is continued. The present species seems closely allied to *H. innuba*, Har., but is smaller, and further distinguished by the deep groove at each side above the clypeus, and by the entire want of a basilar elytral elevation. A single specimen from the same locality differs from the description given

above in the fine punctuation of the elytra; but as I am unable to find any other differences, I prefer to consider it as a variety rather than another species.

13. **Haltica limitata.**

Oblong, dark violaceous; antennæ black; thorax transverse, impunctate, basilar groove abbreviated at each side; elytra very finely and closely punctured.

Length 2 lines.

Head distinctly punctured round the inner margin of the eyes; frontal tubercles very flat but broad, limited behind by a very narrow transverse ridge; carina acutely raised; labrum and palpi black; antennæ half the length of the body, rather robust, the third joint one half longer than the second; thorax about twice as broad as long, the lateral margins scarcely rounded; basilar groove straight, abbreviated at each side and not continued upwards; surface in front and behind the sulcation impunctate; elytra convex, subparallel, of a fine metallic reddish violaceous, exceedingly minutely punctured, the extreme apex impunctate; femora and underside more obscure violaceous.

Hab. GUATEMALA (*coll. Sallé*).

Only a single, apparently female, specimen is contained in the Sallé collection; from all other species the interrupted basilar groove of the thorax and the fine violaceous colour well separate the present insect.

14. **Haltica complicata.** (Tab. XVII. fig. 10.)

Haltica complicata, Harold, Coleopt. Hefte, xv. 1876, p. 119[1].

Hab. MEXICO [1], Cordova, Toxpam (*Sallé*).

Von Harold has given but a diagnosis of this species, with which the specimens from M. Sallé's collection and named *H. complicata* agree. The species is of a rather opaque greenish blue, and principally distinguished by the two longitudinal costæ which unite near the apex of the elytra, the space between them being much depressed, and having in some specimens a third more or less distinct rib; the same depression is also visible between the first costa and the suture. Both males and females have the same elytral structure.

15. **Haltica sallei.**

Haltica sallei, Harold, Coleopt. Hefte, xv. 1876, p. 119[1].

Hab. MEXICO [1].

It is impossible to recognize with certainty a species of this difficult genus of which a short diagnosis only is given. Von Harold says that the insect much resembles a species of *Diphaulaca*; but the author does not mention the shape of the thoracic groove, whether it is limited at the sides, as is the case in *Diphaulaca.* Possibly the species is identical with *Diphaulaca nitida,* Jac., which, in my opinion, is a true *Diphaulaca.*

16. Haltica obliterata.

Haltica obliterata, Leconte, Coleopt. of Kansas, 1859, p. 26[1].

Hab. North America[1].—Mexico, North Sonora (*Morrison*).

The specimens received from Mexico agree well enough with the description of Leconte to be considered referable to the present species. Their colour is a dull opaque dark, almost blackish, blue, in which respect they differ from most other species under consideration here; the frontal tubercles are distinct and of subquadrate shape, the carina elongate and narrow; the antennæ are nearly half the length of the body, black, the third joint distinctly shorter than the fourth, the terminal joints having a greyish appearance on account of the fine but close pubescence covering them; the thorax is rather long, not much more than half as broad as long, the basilar sulcation being nearly obliterated; the entire surface is extremely finely and closely punctured; the same may be said of the elytra, but their punctuation is a little more distinct than that of the thorax, and no traces of any costæ are visible. The sexes do not show any perceptible difference in any way.

The species is tolerably easy of recognition on account of the general colour, fine punctuation, and the nearly absent thoracic groove. The size varies, however, from two to three lines.

17. Haltica torquata.

Haltica torquata, Leconte, Journ. Ac. Phil. iv. 1858, p. 27; Coleopt. of Kansas, 1859, p. 26[1].

Hab. North America[1].—Mexico, North Sonora (*Morrison*).

A specimen from North America contained in my collection agrees entirely with those before me from Mexico, which I refer to the present insect on account of the coloration. In all the specimens the thorax is of a reddish cupreous, margined (especially at the base) with a more brassy hue; the elytra vary from green to obscure cupreous, and have the lateral margin generally purplish; thorax and elytra are extremely finely and closely punctured; the antennæ, of which the third and fourth joints are of equal length, have their basal joints of a metallic æneous colour, the terminal ones black. The size of the insect is two to two and a half lines.

SYPHREA.

Syphrea, Baly, Trans. Ent. Soc. 1876, p. 447.

Syphrea was founded on a single species from Guatemala, having the general characters to be found in *Haltica*, but differing in its robust and very convex general shape, and especially that of the thorax.

1. **Syphrea pretiosa.** (Tab. XVII. fig. 23.)

Syphrea pretiosa, Baly, Trans. Ent. Soc. 1876, p. 447[1].

Hab. GUATEMALA[1] (*coll. Sallé*), Cerro Zunil, Panajachel 4000 to 5000 feet (*Champion*); COSTA RICA (*van Patten*).

There are some differences to be found between the specimens obtained by Mr. Champion and the type, which is figured. The former are of less dilated shape, smaller, the thorax is more transverse, and the first three joints of the antennæ are more or less stained with rufous. All this would perhaps be sufficient for these insects to be looked upon as representing another species; but as I can see intermediate degrees amongst them, I think it better to consider the species a rather variable one.

CACOSCELIS.

Cacoscelis, Chevrolat, in d'Orbig. Dict. univ. Hist. Nat. iii. 1843, p. 13; Clark, Journ. of Ent. ii. p. 406.

This genus contains species of large size and generally metallic coloration, having a rather flattened appearance. The eyes are small, and the thorax has a generally obsolete transverse groove. The genus is extremely closely allied to *Disonycha*, from which it can scarcely be otherwise separated than by its larger size, as it agrees even with that genus in the oblique posterior angles of the thorax. The emargination of the hinder tibiæ is only sometimes present, but often absent. A few Central-American species only are known, the others are exclusively from the more southern parts of America.

1. **Cacoscelis compta.** (Tab. XVII. fig. 18.)

Cacocelis compta, Erichs. Wiegm. Arch. 1847, i. p. 174[1].

Hab. NICARAGUA, Chontales (*Belt, Janson, coll. Sallé, Jacoby*).—PERU[1].

Although the Nicaraguan specimens before me differ from the Peruvian forms in the entirely fulvous head and the want of the transverse black spot at the thorax, I do not think I err in considering these insects but varieties of Erichson's species. With *C. marginata*, Fabr., they cannot be confounded on account of the flavous elytral suture, which I have never seen in any of the last-named species, while it is constant in all the Nicaraguan specimens. These latter have also at the sides of the thorax a very small black spot; this and the fulvous vertex of the head is the only difference which I can find between this variety and *C. compta*. The size of the insect is as variable (from 4 to 7 lines) as in the several allied species, but the colour of the elytra is dark violaceous blue. In this and the above other particulars the dozen specimens before me show no variation; should more material in future show the same constancy, the present form might perhaps then be considered as distinct from *C. compta*.

2. **Cacoscelis sallæi.** (Tab. XVII. fig. 14.)

Below, the head and thorax flavous; antennæ, apex of femora, tibiæ and tarsi black; elytra metallic blue, rugose-punctate.

Length $3\frac{1}{2}$–4 lines.

Head nearly as broad as long, transversely grooved between the eyes; frontal tubercles very small and but little raised; clypeus much swollen, triangular and narrow; surface of the labrum, apex of jaws, and the palpi black; antennæ robust, about half the length of the body, the third and fourth joints equal, double the length of the second, the terminal joints thinner; thorax transversely quadrate, the sides very little rounded; angles distinct but not produced, surface entirely impunctate, with a shallow transverse groove near the posterior margin, which entirely disappears near the sides; scutellum flavous, broader than long; elytra slightly widened below the middle, narrowed at the apex, metallic blue or bluish green, very closely and distinctly punctured, the interstices slightly transversely rugose; their epipleuræ very broad, extending nearly to the apex and strongly rugose-punctate; base of the femora flavous, the posterior strongly incrassate; claws appendiculate; coxal cavities open.

Hab. Mexico, Jalapa (*Höge*), Cordova (*Höge*, *Sallé*).

I have provisionally placed the present species in *Cacoscelis* on account of the transversely grooved thorax and the rugosely punctured elytra. In other respects, however, there are many differences to be found which would justify the erection of another genus. The thorax is of a more square shape, and the posterior margin is not oblique at the sides, and the elytral epipleuræ are extremely broad and rugosely wrinkled or punctured; the scutellum is, however, as broad as in *Cacoscelis*: the tibiæ show no emargination at their apices. In the specimens which I consider the female sex, the antennæ are much less robust and more filiform.

3. **Cacoscelis quinquelineata.** (Tab. XVIII. fig. 5.)

Altica quinquelineata, Latr. Voy. Humb. i. 1811, p. 232, t. 23. fig. 10[1]; Hoffmansg. Zool. Mag. i. 2, 1818, p. 91.

Hab. Mexico, Yuquila, Tehuantepec, Vera Cruz (*Sallé*), Cerro de Plumas (*Höge*); British Honduras, Belize, river Hondo (*Blancaneaux*); Guatemala, Dueñas, an Gerónimo (*Champion*); Nicaragua, Chontales (*Belt*).—South America.

The description given by Latreille agrees perfectly well with the specimens obtained in Central America. The size of the insect varies greatly, but not the coloration.

4. **Cacoscelis flava.** (Tab. XVIII. fig. 4.)

Cacoscelis flava, Clark, Journ. of Entom. ii. 1865, p. 407[1].

Hab. Mexico[1], Cerro de Plumas (*Höge*).

The single specimen obtained by Herr Höge agrees in all essential points with the short diagnosis given by Clark, to which I may add that the antennæ are about half the length of the body, the fourth joint being longer than the third; the sides of the thorax are straight, and the posterior angles distinctly oblique; the elytra can scarcely be called reticulate, but are closely covered with little punctures, the interstices being

very finely rugose. The specimen before me is $4\frac{1}{2}$ lines in length (which is a line less than Clark gives), and the disk of the thorax as well as the legs are obscure fulvous, the rest flavous.

5. Cacoscelis bicolorata.

Cacoscelis bicolorata, Clark, Journ. of Entom. ii. 1865, p. 408[1].

Hab. Mexico[1].

6. Cacoscelis scriptipennis. (Tab. XVIII. fig. 6.)

Elongate, parallel, pale fulvous below; antennæ black, three basal joints fulvous, above testaceous; thorax with five piceous spots; elytra finely punctured, testaceous, the sutural and lateral margin, an oblique stripe from the base to the suture connected with two square-shaped marks at the middle, as well as a round mark at the apex, black.

Length 3–4 lines.

Head strongly punctured at the vertex and between the eyes, testaceous, a short stripe at the base black; frontal tubercles indistinct; carina short and thick; antennæ rather short, less than half the length of the body, third and fourth joints equal, the three basal joints fulvous, the rest black; thorax transverse, the sides rounded, the posterior angles oblique; surface remotely, but distinctly, punctured, with a small fovea at each side near the base, the basilar sulcation entirely absent; disk with four transversely placed and generally connected piceous spots, and a fifth intermediate and more elongate one; scutellum obscure fulvous, margined with piceous; elytra narrowly elongate, parallel, closely and finely punctured, testaceous; a transverse narrow band below the middle, an oblique central stripe from the middle of the base to the suture, connected with the posterior band and the lateral margin by a median longitudinal line and a transverse shorter one, a spot at the shoulder, and a rounded stripe near the apex extending from the suture upwards and sideways black; abdominal segments stained with piceous. Legs fulvous; tibiæ and tarsi sometimes piceous.

Hab. Guatemala, Zapote (*Champion*).

This curiously marked species, of which the figure will give a better idea than the description, has the appearance and general characters of a true *Cacoscelis*, although the thoracic depression is absent and the tibiæ show no emargination (a character often wanting also in other species of this genus). The testaceous colour of the elytra is divided by the black markings into elongate spaces of different size and shape. Four specimens were obtained.

DISONYCHA.

Disonycha, Chevrolat in d'Orbign. Dict. univ. Hist. Nat. v. 1844, p. 80; Clark, Journ. of Ent. ii. p. 401.

In *Disonycha* the transverse groove of the thorax is, in the majority of species, so indistinct as almost rightly to be considered wanting; indications of it are, however, generally visible at the sides, and in some instances the entire groove is more distinctly marked. The principal character of the genus may be found in the obliquely cut posterior angles of the thorax and the shape of the carina between the antennæ, which widens considerably anteriorly, being connected with the clypeus, as is also the

case in *Lactica*. Clark says that the claws are simple, which is not the case, as they are decidedly appendiculate. Almost the same difficulties are experienced in the separation of the species as in *Haltica*, their coloration being, for the most part, very similar, and consisting of a testaceous ground-colour striped with black. There are, however, species with metallic blue and green elytra, and others with transverse black markings; these two latter forms I have considered first in the present monograph.

1. Disonycha collata.

Crioceris collata, Fabr. Syst. El. i. p. 463[1]; Suffr. Wiegm. Arch. 1868, p. 180[2].
Altica collata, Oliv. Ent. vi. p. 702, t. 4. fig. 61[3]; Illig. Mag. vi. p. 126[4].

Hab. North America[1 3 4].—Mexico, Monclova, Saltillo in Codahuila (*Dr. Palmer*), Ciudad in Durango (*Forrer*), Jalapa (*Höge*), Cordova, Cosomatepec, Oaxaca, Yolos, Puebla, Guanajuato, Capulalpam (*Sallé*); Guatemala (*coll. Sallé, Jacoby*), near the city, Purula, Capetillo, Dueñas (*Champion*); Costa Rica (*Van Patten*).

This is evidently a widely distributed and not uncommon, as well as variable, species The descriptions of Fabricius and Olivier give the elytra as "lævis." Von Harold says (Coleopt. Hefte) that the specimens from North America are distinctly punctured. The many specimens before me from the above localities show great variation in this respect, from nearly impunctate to distinctly punctured elytra. The colour of the legs seems equally variable; and, although Fabricius gives the femora as yellow, I have many specimens for comparison which have only the base of the femora flavous, the rest black (in which they agree with the description of *D. collaris*); some have the legs entirely black. In all, however, the lower part of the head is flavous, the vertex being metallic greenish, which is the colour of the true *D. collata*. In spite of this diversity I look upon all these specimens as representing but varieties of one species.

2. Disonycha nigripes. (Tab. XVIII. fig. 7.)

Below testaceous; antennæ and legs black or piceous; head and thorax flavous, obscurely marked with piceous; elytra impunctate, violaceous blue.
Length 2 lines.

Hab. Costa Rica, Cache (*Rogers*); Panama, Volcan de Chiriqui, David, Tolé (*Champion*).

Larger than *D. collata*, and distinguished by the following differences:—The head is entirely flavous without the coarse punctuation, with a small but deep fovea in front of each eye; the frontal tubercles are entirely absent; the carina is strongly raised, and widened into the clypeus; the antennæ are rather long, quite half the length of the body, the fourth joint being much longer than the third; the sides of the thorax are nearly straight, thickened at the anterior angles, the surface without any distinct basal depression or transverse groove, but the posterior angles are, as usual, obliquely shaped;

the elytra are metallic violaceous without any trace of punctuation. Two specimens from David have the antennæ fulvous, but differ in no other way. Lastly, the legs in twenty specimens are black or piceous; this latter character in connexion with the differently sculptured head will also separate the present insect from *D. eximia* and *D. steinheili*, Harold.

3. **Disonycha melanocephala.** (Tab. XVIII. fig. 10.)

Flavous below; head black; thorax and legs flavous; tarsi black; elytra violaceous or black, impunctate.
Length $2\frac{1}{2}$ lines.

Head rather flat, impunctate at the vertex, with a row of deep punctures round the inner margin of the eyes; carina very strongly raised and thickened; antennæ half the length of the body, black, the three basal joints testaceous below, fourth joint a little longer than the third; thorax transverse, of equal width, the sides nearly straight, anterior angles thickened; surface entirely impunctate, flavous; scutellum black, distinctly broader than long; elytra impunctate, shining, black or dark violaceous. Underside and legs uniformly flavous; extreme apex of the tibiæ and the tarsi black.

Hab. MEXICO, Tuxtla, Vera Cruz (*coll. Sallé*).

The head in this species is of a shining jet-black colour; this in connexion with the flavous underside and legs will help to separate the insect from *D. collaris*, Fabr., and several other allied species. The impunctate elytra will distinguish it from *D. melli-collis*, Say.

4. **Disonycha nigripennis.** (Tab. XVIII. fig. 9.)

Elongate, subparallel, flavous; legs ferrugineous; antennæ (the three basal joints excepted), parts of the breast, apex of tibiæ and the tarsi black; elytra finely transversely wrinkled, black, shining.
Length $2\frac{3}{4}$–3 lines.

Vertex of the head more or less piceous, the middle with a fine longitudinal groove; near the inner margin of the eyes a few deep punctures are placed; frontal tubercles very obsolete and transverse; carina thickened and distinct; labrum fulvous; antennæ rather robust, the first three basal joints testaceous, more or less stained with piceous above, the rest black; fourth joint distinctly longer than the third; thorax flavous, impunctate, the basilar sulcation only indicated at the sides by an obsolete fovea; scutellum black; elytra finely transversely wrinkled, shining, black.

Hab. MEXICO, Ventanas 2000 feet (*Forrer*).

The elongate shape, black and finely rugose elytra separate this species, which is allied to *D. collaris*, but differs in the colour of the head and the sculpture of the elytra.

5. **Disonycha mexicana.** (Tab. XVIII. fig. 8.)

Ovate, slightly widened behind, flavous or ferruginous; antennæ fuscous or piceous, the first three joints flavous below; elytra violaceous or blue, entirely impunctate; apex of the tibiæ and the tarsi piceous or black.
Length 2–$2\frac{1}{2}$ lines.

Hab. MEXICO, Cordova, Cosamaloapam (*Sallé*), Jalapa (*Höge*); GUATEMALA, Panima, El Reposo (*Champion*); NICARAGUA, Chontales (*Janson*).

The head in this species is of the same colour and sculpture as in *D. nigripes*; the carina is, however, wider, not so acutely raised, and still more dilated at the clypeus; the antennæ have the fourth joint much longer than the third; and the legs and underside are entirely flavous, with the exception of the apex of the tibiæ and the tarsi, which (as is usual) are black. The insect is also closely allied to *D. eximia*, but the antennæ are quite different and much more slender, and the colour of the elytra is also totally different. It is of course possible that the present species is but a variety of *D. nigripes*; but as the ten specimens under examination all agree in the above particulars, I must consider them to represent another species. Two specimens from Nicaragua agree in all essential characters with the type, except in the more or less black vertex of the head; the impunctate elytra, however, prevent my looking upon these specimens as varieties of *D. collata*.

6. **Disonycha subænea.** (Tab. XVIII. fig. 13.)

Testaceous; antennæ black, the three basal joints testaceous below; disk of the elytra brownish or greenish æneous, closely subrugose-punctate.

Length $3\frac{1}{2}$–4 lines.

Head impunctate, the vertex sometimes obscure piceous; frontal tubercles flattened, transverse; carina swollen and much widened in front; antennæ shorter than half the length of the body, slender, not thickened at the terminal joints, fourth joint distinctly longer than the third; thorax narrowed in front, sides with a flattened margin, which is rather broad in front of the anterior angles; surface impunctate, the basilar groove scarcely visible; scutellum black; elytra rather flattened, closely and somewhat rugosely punctured, æneous, the lateral margin broadly testaceous. Underside and legs testaceous; the apex of the posterior femora, that of all the tibiæ and the tarsi piceous.

Hab. Mexico, Oaxaca (*Höge*), Juquila (*Boucard, coll. Sallé*).

At first sight the species here described resembles *D. discoidea*, Fabr.; it is, however, larger, the colour of the disk of the elytra is bronze, not black, and the punctuation much stronger. The same differences as well as the testaceous colour of the elytral epipleura separate the species from *D. dorsata*. In one or two specimens there is just an indication of a narrow lateral elytral stripe.

7. **Disonycha apicalis.** (Tab. XVIII. fig. 16.)

Testaceous; breast black; four terminal joints of antennæ fuscous; head and elytra greenish black, the latter closely punctured, their apex testaceous.

Length 3 lines.

Head impunctate, with a distinct longitudinal groove between the eyes, and a fovea in front of their inner margin; frontal tubercles very broad, but flat; carina acutely raised; antennæ half the length of the body, testaceous, the last four joints fuscous, the first three basal ones spotted obscurely with piceous above; fourth joint longer than the third; thorax of equal width, the basilar groove scarcely visible; sides narrowly margined, slightly rounded, posterior angles oblique; surface entirely impunctate, testaceous; scutellum of the same colour; elytra metallic greenish black, finely and closely punctured, the apex of each elytron testaceous, forming a triangular-shaped spot; legs and abdomen testaceous; tarsi spotted or edged with piceous, which colour is also indicated at the middle of the abdominal segments.

Hab. Mexico, Orizaba (*Sallé*).

Of this very distinctly marked species, a single specimen only is before me.

8. **Disonycha dorsata.** (Tab. XVIII. fig. 11.)

Disonycha dorsata, Harold, Deutsche ent. Zeitsch. xxiv. 1880, p. 220[1].

Hab. MEXICO[1], Jalapa, Cordova (*Höge*), Tuxtla, Playa Vicente, Cosamaloapam (*coll. Sallé*); BRITISH HONDURAS, river Hondo (*Blancaneaux*); GUATEMALA, Paraiso, La Tinta, Teleman (*Champion*).

Allied to *D. discoidea* in regard to coloration; the elytra may be described as black, with a narrow, but very regularly shaped, yellow submarginal band, which extends from the base to the sutural margin at the apex; constant in this species seems to be the black elytral epipleuræ, and a more or less distinct, small, central thoracic piceous spot or line.

In the specimen obtained by Mr. Champion at Paraiso, the apex of the femora as well as that of the tibiæ are black, and the vertex of the head has a small spot of the same colour; several other specimens obtained in Vera Paz differ again in the colour of the lateral elytral margin as well as in that of their epipleuræ, being dark fulvous instead of black; in other respects, however, I cannot find any difference of importance.

9. **Disonycha sallæi.** (Tab. XVIII. fig. 12.)

Head, breast, and middle of abdomen black; basal joints of antennæ, thorax, and legs flavous; elytra closely punctured, black, a submarginal band, widened at the apex, flavous.

Length 3 lines.

Head black, with a few deep punctures round the eyes, transversely grooved between the latter, the frontal tubercles distinct; carina strongly raised; labrum margined with testaceous; antennæ with the fourth joint much longer than the third, flavous, the four terminal joints fuscous; lateral margin of the thorax rounded, and widened below the middle; posterior margin distinctly produced at the middle, obliquely cut at the angles; elytra closely and distinctly punctured; the disk and the epipleuræ as well as the lateral margin black; this colour is abbreviated at some distance from the apex, the latter and a narrow band near the margin, commencing at the shoulder, flavous; legs, tarsi, and sides of the abdomen flavous.

Hab. MEXICO, Cordova (*Sallé, Höge*).

This is a very distinct species on account of the flavous antennæ, the black head, and similarly coloured elytra, interrupted by the flavous band; this latter the species has in common with *D. dorsata* and several others, but in the present the black margin *as well* as the disk of the elytra is abbreviated before the apex. I find the species in the collection of Mr. Baly under the above name as described by this author, but I am unable to find any published description.

10. **Disonycha pallidicornis.** (Tab. XVIII. fig. 17.)

Below obscure piceous; antennæ and legs flavous; head and thorax fulvous; elytra black, a transverse narrow basal band, another at the middle, and a third near the apex yellow; posterior femora piceous.

Length 2 lines.

Head impunctate, with a more or less distinctly longitudinal depression at the vertex; frontal tubercles extremely obsolete; carina swollen and widened in front; palpi rather robust; antennæ more than half the length of the body, pale flavous, the two basal joints sometimes fulvous, fourth joint longer than the third; thorax about twice as broad as long, the basal sulcation distinct, and preceded at the sides by

another more or less distinct depression; sides nearly straight, the anterior and posterior angles very obliquely shaped; disk entirely impunctate, dark fulvous, shining; scutellum black; elytra scarcely visibly punctured, black, with three narrow and very regular bright yellow transverse bands, of which one occupies the space immediately below the base, the second at or directly below the middle, and the third at a little distance from the apex; all these bands extend to the sutural and lateral margin; underside and the posterior femora black or piceous; legs flavous; apex of the last abdominal segment fulvous.

Hab. PANAMA, Bugaba (*Champion*).

This elegantly marked species, of which a dozen specimens were obtained, has the colour of *D. erichsoni*, Jac., as regards the elytra, but differs in the fulvous head and thorax, as well as in the colour of the legs and antennæ. The posterior femora are sometimes fulvous.

11. **Disonycha trifasciata.** (Tab. XVIII. figg. 14, 15.)

Disonycha trifasciata, Clark, Journ. of Entom. ii. 1865, p. 401[1].

Hab. GUATEMALA, Zapote, San Isidro, Teleman (*Champion*); NICARAGUA, Chontales (*Janson*); COSTA RICA (*Van Patten*); PANAMA, Bugaba, David (*Champion*).—VENEZUELA[1].

This pretty little species seems to be rather widely distributed in Central America, although not hitherto recorded from that locality. It is easily recognized by the black elytra, interrupted by three flavous bands, which do not quite extend to the sutural or lateral margin. The spots of the thorax are frequently absent, and the legs in all the specimens before me are entirely black, or with rufous base of the femora. A single variety from San Isidro, which is also figured here, has two small spots on each elytron instead of the black transverse bands.

12. **Disonycha nigrita.**

Below fulvous; knees, tibiæ, tarsi, and apex of the posterior femora black; head and thorax fulvous, the latter with a central rhomboidal black spot; elytra black, entirely impunctate.

Length 3 lines.

Head with a black spot at the base, impunctate, with the exception of a single puncture in front of each eye; antennæ rather slender, nearly half the length of the body, the intermediate joints somewhat incrassate, black, the three basal joints fulvous below, fourth joint slightly longer than the third; thorax about one half broader than long, the posterior margin sinuate, the sides nearly straight, anterior angles oblique and somewhat thickened, disk impunctate, with a central diamond-shaped black spot; scutellum and elytra black, entirely impunctate and shining.

Hab. GUATEMALA, Pantaleon 1700 feet (*Champion*).

Separated by the black and entirely impunctate elytra, and evidently allied to *D. dorsata*, Har. A single specimen was obtained.

13. **Disonycha dimidiata.** (Tab. XVIII. fig. 21.)

Head, breast, tibiæ, tarsi, and basal joints of the antennæ black; thorax pale fulvous; elytra impunctate basal half black, posterior half testaceous.

Length 3 lines.

Head black, entirely impunctate, with a small fovea in front of the eyes; frontal tubercles absent; carina narrow, acutely raised; antennæ more than half the length of the body, black, the three terminal joints obscure fulvous, fourth joint slightly longer than the third; thorax about twice as broad as long, the sides moderately rounded; anterior angles obliquely thickened, basal groove very obsolete but visible; scutellum black; elytra very slightly widened below the middle, rather strongly convex, impunctate, black, the posterior portion from slightly below the middle testaceous; femora and abdomen pale fulvous; tibiæ, tarsi, and the breast black.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

Two specimens of this well-marked species were captured.

14. **Disonycha austriaca.** (Tab. XVIII. fig. 18.)

Œdionychis austriaca, Schaufuss, Nunq. Otiosus, ii. 1874, p. 308[1].
Disonycha austriaca, Harold, Coleopt. Hefte, xiv. p. 28[2].

Hab. GUATEMALA, Panima, Chacoj (*Champion*); PANAMA, David, Bugaba (*Champion*). —COLOMBIA[1 2]; PERU (*coll. Jacoby*).

The only difference to be noted in the Panama specimens is the black instead of the flavous underside to be found in the South-American forms; the spots of the elytra at their posterior half are also connected in all the Central-American specimens, as is sometimes the case in the Southern insects. In other respects I cannot find sufficient differences to justify their separation. The species, as already noted by Von Harold, is a true *Disonycha*, and has nothing to do with the genus *Œdionychis*.

15. **Disonycha sexmaculata.** (Tab. XVIII. fig. 19.)

Ovate-oblong, below piceous; sides of the abdomen, legs, antennæ, and thorax flavous; head black; elytra impunctate, black; a spot at the base, a transverse band at the middle, and another at the apex yellow.
Length $2\frac{1}{4}$ lines.

Hab. MEXICO, Cordova (*coll. Sallé*).

Closely allied to *D. austriaca*, from which it differs principally by the pale flavous colour of the antennæ and legs; the former have the first two joints stained with piceous above, and their third and fourth joints are of nearly equal length. Three specimens before me agree with each other in every respect.

16. **Disonycha cordovana.** (Tab. XVIII. fig. 20.)

Oblong-ovate, convex; head, thorax, and femora obscure fulvous; tibiæ and breast black; elytra closely punctured, testaceous, the sutural and lateral margin, a spot at the base and apex, and a transverse band before and below the middle black; abdomen testaceous.
Length 3 lines.
Head impunctate, with a single fovea in front of the eyes; frontal tubercles absent; carina very narrow but distinct; palpi black; thorax nearly three times as broad as long; posterior margin convex; lateral margin nearly straight; anterior angles obtusely thickened and oblique, posterior ones obliquely sinuate; basal sulcation very obsolete, and indicated only by a small central fovea; upper surface entirely impunc-

tate; scutellum black; elytra widened towards the middle, rather strongly convex and closely punctured, testaceous, the lateral and sutural margin narrowly black; a spot of the same colour is placed at the middle of the base and another larger one at the extreme apex; of the two bands, the first extends across the disk before the middle, and is widened at the suture, the other (of broader shape, and with its anterior margin angulate near the suture) is placed directly below the middle; posterior femora strongly incrassate; posterior first tarsal joint nearly as long as the three following joints united.

Hab. Mexico, Cordova (*Sallé*).

Of a more convex and robust shape than is generally the case in this genus, and rather easily distinguished by its coloration. Three specimens are before me.

17. **Disonycha glabrata.**

Crioceris glabrata, Fabr. Spec. Ins. i. 1781, p. 156[1].
Galleruca glabrata, Fabr. Ent. Syst. i. 2, p. 25 (1792)[2]; Syst. El. i. p. 494 (1801)[3].
Altica glabrata, Oliv. Ent. vi. p. 685, t. ii. fig. 28[4].
Disonycha glabrata, Har. Coleopt. Hefte, xv. p. 4[5].
Altica alternata, Latr. Voy. Humb. ii. 1883, p. 39, t. 23. fig. 12[6].
Crioceris tomentosa, Fabr. Syst. Ent. p. 122[7].

Hab. North America[1 2 3 4].—Mexico, Jalapa, Oaxaca, Cordova (*Höge*), Vera Cruz, Cuernavaca, Cordova, Yolos, Tuxtla, Istopan, San Andres (*coll. Sallé*), Ventanas (*Forrer*); British Honduras, river Hondo (*Blancaneaux*); Guatemala, Zapote, San Gerónimo, Las Mercedes, Teleman (*Champion*); Nicaragua, Chontales (*Janson*); Costa Rica (*Van Patten*), Cache (*Rogers*); Panama, Volcan de Chiriqui, Bugaba, Taboga Island (*Champion*).—Colombia[5 6] (*coll. Jacoby*); Peru (*coll. Jacoby*); Jamaica[7].

This abundant and widely distributed species is one of those forms which, on account of the similarity of its pattern, which it has in common with many allied species, is not always easy to separate. Its principal distinguishing character is to be found in the broad central dark band, which is quite as broad as or broader than the yellow portion, and in the impunctate elytra. Von Harold, in describing an allied species (*D. prolixa*), says that in *D. glabrata* the third and fourth joints of the antennæ are equal in length; but in all the very numerous specimens from the localities quoted above, and which I must of necessity refer to *D. glabrata* on account of their similarity to specimens from Peru, Bogota, &c., contained in my collection, I find that the third joint is distinctly shorter than the fourth. I may further remark that the legs in all my specimens are fulvous, and the elytral epipleuræ black.

18. **Disonycha alternata.**

Haltica alternata, Illiger, Mag. für Ins. vi. 1807, p. 144[1].
Var. *fumata,* Lec. Proc. Ac. Phil. ix. 1858, p. 86[2].
Disonycha plurigata, Lec. Journ. Ac. Phil. iv. 1858, p. 27; Coleopt. of Kansas, 1859, p. 25[3].
Disonycha pura, Lec. Proc. Ac. Phil. ix. 1858, p. 86[4].
Disonycha 5-*vittata,* Say, Journ. Ac. Phil. iv. 1, 1824, p. 85[5].

Hab. NORTH AMERICA [1 2 3 4 5].—MEXICO, Oaxaca, Vera Cruz, Sinaloa, Orizaba, Juquila (*coll. Sallé*), Oaxaca, Jalapa (*Höge*), Ventanas (*Forrer*); BRITISH HONDURAS, river Sarstoon (*Blancaneaux*); GUATEMALA, Dueñas, Capetillo (*Champion*); NICARAGUA, Chontales (*Janson*); COSTA RICA (*Van Patten*), Volcan de Irazu (*Rogers*).

Although this species has been described as inhabiting North America by the above-named authors, I must refer the numerous specimens from Central America which are before me to Illiger's species, whose description agrees in all essential points. This author says, however, that the underside is reddish yellow, while all the specimens which I have for examination have the sides of the metasternum more or less black; the two thoracic spots which Illiger mentions are absent in most specimens, but present in some. So many similarly coloured species from all parts of the South-American continent are contained in collections, in most cases mixed together and unnamed, that an examination of Illiger's type and those of the other authors is absolutely necessary to form a conclusive opinion as to their specific value. Whether the above names are really but synonyms of Illiger's species, as given in Gemminger's catalogue, remains yet to be seen. The principal character of distinction in the present species seems to be the narrow lateral elytral margin, which is of the testaceous ground-colour and accompanied by a narrow black stripe, which in all the specimens from Central America is of half the width only of the stripes, which are placed on the disk and the sutural margin. The antennæ are very nearly two thirds the length of the body, and the fourth joint is nearly double the length of the third.

19. **Disonycha guatemalensis.**

Below entirely fulvous, shining; antennæ short, black, the basal joint fulvous; thorax and elytra testaceous or fulvous, the latter impunctate; a sutural and discoidal stripe, as well as a very narrow lateral one near the margin, black.

Length 2½ lines.

Hab. GUATEMALA, San Gerónimo, Zapote, Dueñas (*Champion*).

It is impossible to consider this species only a variety of the preceding, on account of its short antennæ, which in the five specimens obtained scarcely extend to the length of the first third of the elytra; their joints also are very short, and gradually but slightly thickened towards the apex; while, on the contrary, the same parts in *D. alternata* are slender and elongate in both sexes. Other distinctive characters of the present insect are to be found in its smaller size and the colour of the underside (which agrees with the description of Illiger's species), the latter being only very sparingly covered with hairs. The legs are entirely fulvous, without any black stripes.

20. **Disonycha recticollis.** (Tab. XVIII. fig. 25.)

Below piceous; femora and apex of the abdomen fulvous; base of the head, antennæ, and tarsi black; above testaceous; thorax impunctate; elytra extremely minutely punctured; a narrow sutural and lateral stripe, and another wider one at the disk, black.

♀. The black discoidal elytral stripe raised in shape of an acute ridge.

Length 2½–3 lines.

Head smooth, impunctate at the middle, the sides near the eyes with a few punctures; antennæ two thirds the length of the body, the first joint more or less fulvous below, the rest black, fourth joint distinctly longer than the third; thorax transversely subquadrate, not narrowed in front, the sides rounded, the posterior and anterior margin straight; all the angles obsolete; scutellum black; elytra extremely finely punctured when seen with a strong lens, testaceous, their outer margin and that of their epipleuræ of the same colour; underside black or piceous, the last one or two abdominal segments fulvous; tibiæ and tarsi black.

Hab. MEXICO, Cordova (*coll. Sallé*); GUATEMALA (*coll. Jacoby, Sallé*), Tactic (*Champion*); NICARAGUA, Chontales (*Belt*); COSTA RICA (*Van Patten*).

Numerous specimens of this species were obtained in Costa Rica. I have no doubt of its specific distinction from *D. alternata* and allied forms. In these latter the thorax is always wider at the base than at the apex; here, on the contrary, the shape is transversely subquadrate, by which the male insect may be alone separated; in the female the intermediate black elytral stripe (which in both sexes is always distinctly wider than the two others) is longitudinally deeply depressed at the sides, the stripe itself forming an acutely raised ridge, abbreviated as usual at the apex; the colour of the underside is also constantly black, with the exception of the last two abdominal segments in both sexes. Whether this species may be but a variety of *D. bicarinata*, Boh., to which it is evidently closely allied, I am unable to say; but as the latter insect is described from Brazil and with the thorax spotted with black, of which no trace is visible in the many specimens before me, I have thought it best to consider it as distinct from Boheman's species. I may further add that even in the male insect traces of the elytral longitudinal costa may be seen.

21. **Disonycha panamensis.** (Tab. XIX. fig. 1.)

Below and the legs fulvous; thorax impunctate, marginate at the sides; elytra minutely punctured and rugose, testaceous, a broad longitudinal stripe at the middle black, a sutural and lateral stripe fulvous or piceous.

Length 3 lines.

Head impunctate; the frontal tubercles indistinct and divided in front by a distinct fovea; another small fovea is placed at the vertex; antennæ long, slender, the first two or three joints fulvous, the rest black; fourth joint longer than the third; thorax fulvous, not narrowed in front, of equal width, the sides much rounded and with a distinct margin, the basilar sulcation indicated at the sides only by a small impressed fovea; elytra very finely rugose and punctured, a sutural and submarginal narrow stripe obscure piceous, a discoidal broader band, abbreviated before the apex, black; this band is as broad as the intervening yellow portion; legs and underside fulvous, pubescent; the abdomen and tarsi often fuscous.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

The thorax in this species is of quite a different shape from what is usually the case,

and resembles that of *D. recticollis*; but the sides in the present species are much more rounded, and provided with a distinct and rather broad margin. In all the specimens before me, to the number of twenty-four, the sutural and submarginal band is of a fulvous or piceous, not black colour, and often even quite absent or scarcely visible. But the shape of the thorax is the principal distinguishing feature of this species.

22. **Disonycha militaris.** (Tab. XIX. fig. 5.)

Fulvous; antennæ (the first two joints excepted), tibiæ, and tarsi black; elytra testaceous, a very thin sutural, discoidal, and sublateral stripe black.
Var. *a*. The sublateral elytral stripe absent.
Var. *b*. Sides of the elytra and the underside rufous, rest as in var. *a*.
Length 3–3½ lines.

Hab. MEXICO (*Museum Stuttgart*); GUATEMALA, Zapote, San Gerónimo, Chacoj (*Champion*); PANAMA, David (*Champion*).

The black elytral stripes in this species are extremely thin, the lateral one being sometimes absent; on account of these narrow bands the species cannot be mistaken for any other; the antennæ are robust and rather short, the fourth joint is scarcely longer than the third; in the pretty variety *b* the lateral margin of the elytra and the whole underside is stained with rufous. The head in all the specimens has a deep, but small fovea in front of the eyes; the thorax is but little narrowed in front, impunctate and without spots; the posterior angles are more obliquely cut than is usually the case, and the elytra are scarcely punctured.

23. **Disonycha figurata.** (Tab. XVIII. fig. 24.)

Entirely testaceous or flavous; antennæ black, the first three joints testaceous below; thorax with two small spots; elytra minutely punctured, the elytral bands very obsolete.
Var. *a*. Thorax and elytra entirely testaceous.
Var. *b*. Femora fulvous, tibiæ and tarsi black.
Length 3–3½ lines.

Hab. MEXICO, Ventanas (*Forrer*), Cerro de Plumas, Oaxaca (*Höge*), Juquila, Cordova, Playa Vicente, Tuxtla, Capulalpam, Guanajuato (*coll. Sallé*); GUATEMALA, Capetillo, Dueñas, Chacoj (*Champion*); PANAMA, Bugaba (*Champion*).

I have not much doubt that this insect is but a pale or, may be, immature form of *D. alternata* or an allied species; as there are, however, so many specimens of the same coloration before me, I have thought it best for the sake of completeness to give this form another name. Intermediate degrees are not wanting in which the evanescent elytral bands of most specimens are better visible; the shape too and the punctuation of the elytra are equally variable; the thorax in most specimens has two small spots at the middle of the disk; in others these are wanting; the elytra are very finely or scarcely visibly punctured. In all other respects the species cannot be distinguished from *D. alternata* or some of its varieties.

24. **Disonycha högei.** (Tab. XIX. fig. 2.)

Testaceous; antennæ, a central thoracic spot, and the scutellum black; elytra impunctate, testaceous, more or less stained with fulvous at the sides; tarsi fuscous.
Length 3 lines.

Hab. Mexico, Jalapa, Cerro de Plumas (*Höge*).

In comparing *D. högei* with *D. figurata*, the following differences are to be noted: the thorax in the former is narrower and more transverse, the anterior margin more concave and the angles more distinctly produced outwards and obliquely shaped; instead of the two small central spots, a single short narrow line is placed in the middle of the disk (as in *D. glabrata*); the scutellum is black (in all specimens of *D figurata* it is testaceous); lastly, the entire underside and legs are testaceous, the tarsi only being piceous or fuscous; the sides of the elytra and the thorax in one specimen are suffused with rufous.

This species is certainly distinct from the preceding, but may be only a pale variety of *D. glabrata*; no trace of any longitudinal black bands on the elytra is visible, but the ground-colour of the latter is closely covered with minute piceous spots when seen under a lens; these again are interrupted by two or three longitudinal pale stripes, more or less distinctly visible. A few specimens from Ventanas differ from the others in their much paler colour and in having the two small thoracic spots wider apart as is the case in *D. caroliniana*.

25. **Disonycha antennata.** (Tab. XIX. fig. 4.)

Flavous or testaceous, shining; antennæ (the basal joint excepted) black, robust and short; thorax and elytra impunctate; tibiæ and tarsi piceous or black.
Length 3–3½ lines.

Hab. Mexico, Ventanas (*Forrer*), Cordova, Vera Cruz, Panistlahuaca (*coll. Sallé*), Jalapa (*Höge*).

I am obliged to separate this species from the two preceding ones on account of its more elongate and parallel shape and its robust and shorter antennæ; the latter have the third and fourth joints of very nearly equal length and are much thicker than those of *D. figurata*; the upper and under side of the insect is entirely flavous and very shining, and the thorax and elytra are without any trace of darker markings. The species resembles *Cacoscelis flava*, but the different shape of the thorax, of the antennæ, and the impunctate elytra will prevent its being mistaken for that insect. Three specimens from Jalapa differ from the others in having the entire upperside stained with light red, but in all other respects they are identical. The unspotted thorax, more elongate shape, want of any elytral design in connexion with the much more robust and shorter antennæ, will help to separate the present species from *D. figurata*.

26. **Disonycha crenicollis.** (Tab. XVIII. fig. 22.)

Disonycha crenicollis, Say, Bost. Journ. 1835, i. p. 200 [1].

Hab. Mexico [1], North Sonora (*Morrison*), Puebla (*coll. Sallé*).

The description given by Say applies accurately to the specimens obtained at the above locality, and which I must refer therefore to the present species; the antennæ have the fourth joint distinctly longer than the third and are black, with the exception of the first or following two basal joints, which are more or less fulvous; the thorax is generally five-spotted and of a narrow transverse shape; of the spots, the two middle ones are always small and black, the lateral ones large and piceous or fulvous; the outer edge of the elytra as well as their epipleuræ are testaceous, and the longitudinal band at the disk of the elytra is narrower as a rule than the yellow portion; the underside has the lower part of the metasternum and its sides, as well as the apical margins of the abdominal segments, and the tibiæ and tarsi black and closely pubescent; apex of the posterior and the upper edge of the anterior femora black. The punctuation of the elytra is extremely fine.

To distinguish this species from the many closely allied forms, the five-spotted thorax and the colour of the underside will be found the most important characters; without, however, having the type to compare, all doubts as to the proper identification either of this or the other similarly coloured species cannot be set at rest.

27. **Disonycha capitata.**

Below flavous; femora fulvous; base of the head, antennæ, and tarsi black; head rugose-punctate; thorax with two black spots; elytra testaceous, with a narrow sutural, discoidal, and lateral black stripe, impunctate.

Length 3–3½ lines.

Hab. Mexico, North Sonora (*Morrison*), Tuxtla, Cosamaloapam (*coll. Sallé*); Guatemala, Zapote, Panzos (*Champion*).

The differences to be found in this species by which it may be separated from similarly coloured ones are as follows:—the head between the eyes is closely rugose-punctate (in which this species differs from any other known to me), the frontal tubercles are more distinctly raised than is generally the case; the sides of the thorax on the disk are more or less distinctly raised in the shape of tubercles, these latter being frequently of an obscure piceous colour; the longitudinal black bands of the elytra are very narrow, the intermediate one is sinuate or slightly curved inwards at the middle, while the band near the lateral margin is often very indistinctly marked; the legs are without black markings, only the extreme apex of the tibiæ and the tarsi are of that colour; the antennæ are proportionately long and slender, and the fourth joint is longer than the third; the elytral epipleuræ are entirely flavous.

It is possible that this species is identical with one of those described by Leconte; but as this author makes no mention of the rugosely punctured head, and as, moreover,

the many similarly coloured species of this genus can only be separated by finely marked but good (if constant) characters, I must consider the present species as undescribed. From Zapote only a single specimen was obtained, which scarcely differs from the Mexican forms. On account of the uneven almost subtuberculate surface of the thorax, the species ought certainly to be separated from *D. alternata*.

28. **Disonycha brunneofasciata.**

Testaceous below; antennæ black, the first joint fulvous; thorax spotted with fulvous; elytra scarcely visibly punctured, testaceous, a broad sutural and discoidal as well as a narrow lateral band dark fulvous, margined with fuscous.

Length 3 lines.

Hab. British Honduras, river Hondo (*Blancaneaux*).

In the elytral pattern and general shape, this species resembles *D. glabrata*; from this and all other species the colour of the elytral bands at once distinguishes it. These bands themselves are broad, often broader than the intervening lighter portion, with the exception of the lateral band, which is extremely narrow; their colour is a dark fulvous often margined with piceous; the antennæ have the third and fourth joints of equal length; the thorax has generally a triangular-shaped central and two lateral fulvous spots; the apex of the tibiæ and the tarsi are piceous. The ten specimens obtained do not differ in any way, and must therefore be considered specifically distinct.

29. **Disonycha brevilineata.** (Tab. XVIII. fig. 23.)

Ovate, testaceous; antennæ and tarsi black; elytra distinctly and closely punctured, a thin longitudinal stripe at the disk from base to apex, another at the lateral margins, and a very short stripe near the apex black.

Length $2\frac{1}{2}$ lines.

Head with a few punctures between the eyes; antennæ scarcely half the length of the body; the first three joints testaceous below; fourth joint much longer than the preceding; thorax more than twice as broad as long, widened at the middle, the anterior margin straight, the posterior one nearly semicircular, posterior angles oblique; surface impunctate, basilar sulcation absent; scutellum black; elytra finely, closely, and distinctly punctured, testaceous, as well as their epipleuræ; each elytron with a narrow black stripe from the middle of the base to a little distance from the apex, and another parallel and close to the lateral margin; between these two lines a short stripe is placed near the apex, and terminates at the same distance as the other stripes; entire underside and legs testaceous; tarsi black.

Hab. Mexico, Capulalpam (*coll. Sallé*).

The single specimen before me is easy to recognize on account of the elytral markings.

30. **Disonycha abbreviata.** (Tab. XIX. fig. 3.)

Disonycha abbreviata, Melsh. Proc. Ac. Phil. iii. p. 163[1].

Hab. North America.—Mexico, Tehuantepec (*coll. Sallé*).—Guatemala (*coll. Sallé*).

The Mexican and Guatemalan specimens before me show no perceptible difference from others contained in my collection from North America, which agree perfectly with

Melsheimer's description. The species is comparatively easy to recognize by the absence of the submarginal black elytral stripe. I cannot however, quite understand what Melsheimer meant in describing the elytra as " much, finely, and profoundly punctured." The elytra in my specimens are nearly impunctate or in others very finely punctured.

CÆPORIS.

Cæporis, Clark, Journ. of Ent. ii. p. 398; Dejean. Cat. 3 ed. p. 411.

The only Central-American species described by Clark seems to want the principal character which distinguishes the other species of this genus, that is, the spine at the end of the tibiæ, which in nearly all Halticinæ is confined to the posterior tibia only, while in *Cæporis* it is common to all. The three known other species have been found in South America.

1. **Cæporis subcostata.** (Tab. XIX. fig. 10.)

Cæporis subcostata, Clark, Journ. of Ent. ii. p. 399[1].

Hab. Mexico[1].

As already remarked above, this species lacks the spine at the anterior tibiæ, as proved to me by the specimens contained in my collection, and ought perhaps to be placed in *Disonycha,* with which it agrees in all essential points. The thorax has several rather deep depressions at the sides and at the disk, and has three small piceous spots in one of my specimens, but not the markings as described by Clark. The author, although giving the name of *subcostata,* makes no mention of any costæ of which distinct traces are to be seen at the elytra, the latter having an opaque and finely rugose appearance.

PELONIA.

Pelonia, Clark, Journ. of Ent. ii. p. 399.

The species constituting this genus are insects of graceful shapes and, for the most part, delicate colours, which are generally opaque instead of metallic. The antennæ are slender and filiform, and the claws simple. The elytra have a peculiar opaque and dull appearance, with a finely granulate surface. The insects seem to be rare in collections, and none have been previously recorded from Central America, from which country I have four species now before me.

1. **Pelonia elegantula.** (Tab. XVII. fig. 25; Tab. XIX. fig. 7.)

Pelonia elegantula, Baly, Trans. Ent. Soc. 1879, p. 240[1].

Hab. Mexico, Tuxtla; Guatemala, San Gerónimo (*Champion*); Panama, Volcan de Chiriqui, Bugaba (*Champion*).—Peru [1].

A good number of this species have been obtained at Panama; they all differ rather in colour and size from the only type specimen, contained in Mr. Baly's collection, and it is therefore quite possible that they represent another, but very closely allied

species. The difference in the Central-American insects consists in the much more narrow fulvous sutural and lateral margin, and in the colour of the tibiæ, which in nearly, but not all cases, is fulvous instead of black; the elytral punctuation is also somewhat more remote than in the type. I have, however, specimens before me which approach the latter more closely in colour, and I believe therefore that the species is a rather variable one.

Some specimens from the same locality have entirely metallic blue elytra, and are larger than most of the others; but as they do not differ in any other way, I prefer to look upon them as varieties. The figured specimens are from Chiriqui.

2. **Pelonia clarki.** (Tab. XIX. fig. 9.)

Below flavous; above obscure testaceous, opaque; sides of the thorax and two longitudinal bands, connected before and behind the middle of the elytra, obscure fuscous.

Length $1\frac{1}{2}$ line.

Head with a distinct longitudinal ridge at the vertex; the frontal tubercles strongly raised; antennæ half the length of the body, moderately robust, dark fulvous, fourth joint distinctly longer than the third; thorax narrowly transverse, all its sides straight, surface slightly excavated at each side, the excavation limited laterally by a short ridge, disk finely punctured, pale testaceous, a longitudinal band at each side from base to apex fuscous; elytra very finely granulate-punctate, of the same colour as the thorax, each elytron with a subsutural and sublateral fuscous band, which join each other at the middle and near the apex.

Hab. GUATEMALA, Teleman (*Champion*).

This little species seems closely allied to *P. rufo-testacea*, Clark, from which it differs in its elytral pattern and pale general colour as well as smaller size. The two specimens before me do not quite agree, however, in the elytral design, which in one of them has the lateral band extending to the apex, while in the other it is abbreviated; the subsutural band is narrowed in two or three places, of which the figure will give a better idea. The species is altogether of a very dull opaque appearance.

3. **Pelonia balyi.** (Tab. XIX. fig. 8.)

Below flavous; antennæ, knees, tibiæ, and tarsi black; head and thorax rufous; elytra obscure dark fuscous, opaque, the sutural and lateral margin flavous.

Length $1\frac{1}{2}$ line.

Head with a short central ridge at the vertex; clypeus acutely raised; antennæ black, the fourth joint the longest and much longer than the third joint; thorax transversely subquadrate, the sides straight, surface finely granulate, opaque, with an oblique raised ridge at each side extending from the posterior angle to some distance below the anterior margin; scutellum flavous; elytra opaque, finely granulate, covered with numerous smooth punctures upon the darker portion, the latter of a purplish fuscous colour, the lateral and sutural margin very narrowly flavous; underside and femora of the same colour, the knees, tarsi, and tibiæ black.

Hab. PANAMA, Bugaba (*Champion*).

This species somewhat resembles in colour *P. vittata*, Clark, from which it differs in the narrow flavous lateral margin of the elytra and in the much broader darker portion of the latter. A single specimen only was obtained.

4. **Pelonia seminigra.** (Tab. XIX. fig. 6.)

Below black, shining; base of the femora flavous; above obscure fulvous; antennæ, sides of the thorax, obscure fuscous; elytra finely punctured, opaque fulvous, two longitudinal bands of each elytron obscure fuscous.

Length $1\frac{3}{4}$ line.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

At once distinguished from the preceding species by the shining black underside and the scutellum; the antennæ are rather more than half the length of the body and have the first joint flavous; the head and thorax have the same shape and sculpture as *P. clarki*, but there is another, although obscure, central fuscous band in addition to those at the sides of the thorax. The elytral bands are so obsolete as to be almost invisible in the one specimen before me, and it is very probable that the species varies in regard to the elytral and other markings. It is a larger insect than *P. clarki*, and the ground-colour is a darker fulvous.

APHANOCERA.

Body elongate; eyes small, entire; palpi robust, the third and fourth joints subequal, the last conical; antennæ filiform, the first joint robust, the second half the length, third and following joints subequal. Thorax nearly square-shaped, the angles not produced; surface near the base with an indistinct transverse groove, limited laterally by a longitudinal fovea. Scutellum trigonate; elytra elongate, their surface punctate-striate. Posterior femora moderately incrassate; tibiæ dilated at the apex, all armed with a small spine; tarsi triangularly dilated, the first joint but slightly longer than the second; claws appendiculate; prosternum narrowly elongate, longitudinally sulcate; anterior coxal cavities open.

The elongate shape, which somewhat resembles the genus *Cacoscelis*, nearly square-shaped thorax with its basal groove, the punctate-striate elytra, and the armed tibiæ, in connexion with the open coxal cavities, will without difficulty separate the present genus from any other belonging to the present division. The only species obtained by Mr. Champion is of comparatively large size.

1. **Aphanocera fulveola.** (Tab. XIX. fig. 11.)

Obscure fulvous, shining; antennæ, tibiæ, and tarsi black; head and thorax impunctate; elytra closely punctate-striate, the interstices slightly convex.

Length 4 lines.

Head transversely grooved between the eyes; frontal tubercles very distinctly raised; clypeus very narrow, forming an indistinct transverse ridge; antennæ nearly half the length of the body, black; thorax scarcely broader than long, the sides evenly rounded with a narrow margin, anterior and posterior margin straight; surface impunctate, shining; the basilar groove only distinct at the middle, limited at each side by a longitudinal fovea; elytra obscure fulvous, rather darker near the base, slightly constricted at the sides below the middle, their shoulders prominent, surface closely punctate-striate, the punctures moderately deeply impressed and often doubled, the punctuation visible, but more finely to the apex, the interstices very slightly convex; epipleuræ concave, extending to the apex; base of the femora more or less fulvous, the rest black.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

Two specimens were obtained.

MEGASUS.

Body oblong-ovate; head elongate; eyes large, entire; palpi filiform, terminal joint acute; antennæ as long as the body, slender, filiform; thorax transverse, with a laterally interrupted basilar groove; elytra irregularly punctured; tibiæ longitudinally sulcate, the posterior ones mucronate; claws appendiculate; prosternum very narrow; anterior coxal cavities open.

The species for which I am obliged to erect this genus has the general shape and appearance of a *Lactica*, from which it differs, as well as from other allied genera, by the very long and slender antennæ in connexion with the thoracic groove, which is sinuate, and not limited at the sides by a longitudinal fovea, as in *Lactica* and *Diphaulaca*, but interrupted at some distance from the lateral margin, each end being directed obliquely upwards.

1. **Megasus bimaculatus.** (Tab. XIX. fig. 12.)

Testaceous; antennæ (the basal joint excepted), tibiæ, and tarsi black; elytra testaceous, scarcely visibly punctured, a round small spot at the base and a narrow transverse band, interrupted at the sides, black.

Length 2 lines.

Head impunctate, frontal tubercles not strongly raised, the carina very swollen (♂), more flattened in the other sex; antennæ black, the first joint testaceous, slender, and curved, second one half the length of the third, fourth and following joints very slender and elongate, and reaching to the end of the body; eyes very large and distinctly reticulate; thorax twice as broad as long, the sides straight, anterior angles obtuse, posterior margin slightly rounded, surface impunctate, with a distinct transverse groove, the sides of which are directed obliquely upwards, but do not extend to the lateral margin; scutellum trigonate; elytra slightly widened behind, testaceous, extremely finely and closely punctured, a small round spot at the base near the scutellum, and a short, narrow, transverse band at the middle, not extending to either margin, black.

Hab. GUATEMALA, Senahu in Vera Paz (*Champion*).

The antennæ in the female are slightly shorter than in the male; but in other respects I cannot find any difference, with the exception of the carina, as pointed out above.

b. *Anterior coxal cavities closed.*

PRASONA.

Prasona, Baly, Journ. of Entom. i. 1861, p. 300.

The genus *Prasona* (Mr. Baly has written the name in his collection *Prasonia*, and has subsequently described another species under this name in the 'Annals of Nat. Hist.,' 1878) was founded by its author on a Mexican species of rather large size and pale-green colour. In its general appearance it resembles the genus *Haltica*, also in the shape of its thoracic groove; the closed coxal cavities and differently made antennæ separate the genus *Prasona* sufficiently from the former. Mr. Baly described the posterior tibiæ as armed with *two* teeth or spines, which is certainly a mistake, as only a single spine is present, which has already been pointed out by Von Harold (Coleopt. Hefte, xiv. p. 33). A more important structural character, however, and which has been overlooked by the author, is the presence of a small spine at the apex of *all* the

tibiæ, which I find in the type as well as in the other Mexican specimens I have for examination. In this character the genus agrees with *Cæporis* and also with *Systena*, which latter genus is so closely allied to *Prasona* that it may perhaps rightfully be incorporated with it. There is, however, a decided difference to be found in the structure of the antennæ in *Prasona*, which, at least in the male insect, are robust at the base and tapering towards the apical joints, and the third joint is longer than the fourth, not equal, as Von Harold says (Coleopt. Hefte, xv.). In *Systena* these joints are very nearly equal in length, the third joint being sometimes slightly shorter. I think that it is therefore desirable to retain the name of *Prasona* for the species which forms the type, on account of its large size, peculiar coloration, and the structure of the antennæ, which make the insect easy of recognition.

1. **Prasona viridis.** (Tab. XIX. fig. 13.)

Prasona viridis, Baly, Journ. of Entom. i. 1861, p. 301 [1].

Hab. Mexico [1], Toxpam, Cordova (*coll. Sallé*), Jalapa (*Höge*).

I may add to the description of Mr. Baly that the antennæ in the male insect are much more robust than in the female, and that they are distinctly thickened at the base and gradually tapering towards the apex. The species does not seem to be a very common one, only three specimens having been obtained by Herr Höge; six others are contained in the collection of M. Sallé.

SYSTENA.

Systena, Clark, Journ. of Entom. i. 1865, p. 402.

The typical species of this genus are for the most part small and similarly coloured, having dark elytra with one or two longitudinal pale stripes. Many other coloured forms from Central America are, however, before me, some of which at the same time are much larger in size. I have already dwelt upon the close affinity of this genus and *Prasona* in my remarks on the latter genus, and have also pointed out the presence of a small spine at the apices of all the tibiæ in both genera. The shape of *Systena* is for the most part peculiar to the genus; the elytra are somewhat flattened above and widened behind in nearly all the larger-sized species, more convex and parallel, however, in those of smaller size. The antennæ seem, moreover, never to decrease towards the apex in thickness, as in *Prasona*, but remain of equal size, or are thickened at the terminal joints. The species constituting the present genus are distributed from North to South America, as well as in some of the West-Indian islands. Up to the present time but two species have been described from Central America.

1. **Systena marginata.** (*Prasona marginata*, Tab. XVII. fig. 21.)

Fulvous; thorax and elytra finely punctured, the latter metallic blue or green, the lateral margin and apex narrowly fulvous.

Length 3½ lines.

Head extremely finely punctured, the frontal tubercles distinct and elongate; antennæ rather variable in colour, fulvous or piceous, slender, the fourth joint slightly longer than the third; thorax transversely subquadrate, fulvous, the basilar sulcation almost obsolete or indicated at the sides only, surface finely punctured; scutellum fulvous; elytra slightly widened behind and rather flattened, the space behind the base transversely depressed, entire surface extremely closely punctured, metallic dark blue or green, the lateral margins rufous or testaceous; entire underside and legs of the same colour.

Hab. MEXICO, Cordova, Toxpam (*coll. Sallé*); GUATEMALA, Aceytuno 5100 feet (*Salvin*), Zapote, Senahu in Vera Paz (*Champion*).

The colour of the elytra in this species varies, as remarked above, from blue to green, and that of the underside from flavous to fulvous.

2. **Systena mexicana.** (*Prasona mexicana*, Tab. XVII. fig. 20.)

Underside, legs, and antennæ black; head and thorax fulvous; elytra metallic green or blue, closely punctured.

Length $3\frac{1}{2}$ lines.

Hab. MEXICO, Cordova, Toxpam (*coll. Sallé*); GUATEMALA, San Gerónimo, Senahu in Vera Paz (*Champion*).

It is quite possible that this species is but a variety of *S. marginata*, as the difference between the two insects is one of colour only. I have, however, of both forms sufficient specimens, and no intermediate degree, so that I am obliged to consider them distinct. In the present insect the want of the fulvous elytral margin and the colour of the underside will separate it from the preceding species. *S. mexicana* bears the name of *Cacoscelis nigriventris*, Chevrol., in the collection of M. Sallé.

3. **Systena oberthüri.** (Tab. XIX. fig. 15.)

Systena oberthuri, Baly, Annals & Mag. of Nat. Hist. ser. 5, ii. p. 229[1].

Hab. PANAMA, Matachin (*Thieme*)[1], Taboga Island (*Champion*).

The only specimen obtained by Mr. Champion is larger than the type in Mr. Baly's collection, which is figured here. The piceous markings of the elytra are much more distinct and darker; in all other respects the specimen agrees with the type.

4. **Systena variabilis.** (Tab. XIX. figg. 16–21.)

Pale fulvous below; above reddish fulvous; elytra very finely and closely punctured, a transverse band at the base, and another, slightly curved below the middle, black.

Var. *a*. Elytra with a small black spot at the shoulder, another below the base, and two placed transversely below the middle.

Var. *b*. Elytra, legs, and underside black; thorax fulvous.

Var. *c*. Entirely black.

Var. *d*. Entirely testaceous.

Length 2–3 lines.

Hab. MEXICO, Jalapa (*Höge*), Tuxtla, Cordova, Panistlahuca, La Parada, Juquila, Guanajuato, Cuernavaca, Toxpam (*coll. Sallé*); GUATEMALA, Aceytuno 5000 feet (*Salvin*),

San Gerónimo, Zapote, Capetillo (*Champion*); Costa Rica, Cache (*Rogers*); Panama, Volcan de Chiriqui, Bugaba (*Champion*).

More than a hundred specimens from the above localities, which, in regard to colour and size, vary in a most extraordinary manner, have brought me to the conclusion that they represent but one species, as I cannot find any structural character for their separation. The colour of the upper parts, as given above, represents only those of the more immediate contrast; between these a great number of other varieties and intermediate degrees, too numerous to mention, are before me. The head and thorax vary from red to black, or spotted with either colour, and the same applies to the elytra, of which some specimens have the latter black with a yellow margin or yellow with a black margin, spotted or unspotted; in all the head is impunctate, the frontal tubercles flattened and separated by a central groove, but not behind; the antennæ (as variable in colour as the other parts) are slender, and have the third and fourth joints equal; the thorax is scarcely visibly, the elytra more distinctly and very closely punctured. This species is generally of a semiflattened, posteriorly widened shape, but frequently more parallel; the black specimens often have the head only fulvous, in which colour they resemble greatly *S. frontalis*, Fabr.; but the finely punctured upper surface of the present insect will separate them from the latter species. I am the more certain that all the varieties described here represent but one species, as the greater part of them were obtained at the same locality (Volcan de Chiriqui) and at the same elevation of 2500 to 4000 feet.

5. **Systena nigroplagiata.** (Tab. XIX. figg. 23, 24.)

Below black; head, thorax, antennæ, and legs fulvous; elytra minutely punctured, fulvous, a triangular spot surrounding the scutellum, another small spot near the lateral margin, and a transverse band below the middle black.

Var. *a*. Upper part of the head, a spot on the disc of the thorax, and the antennæ black.

Var. *b*. Testaceous above, the black markings of the elytra reduced to small spots.

Length $2\frac{1}{2}$–3 lines.

Hab. Mexico, Guanajuato, Cuernavaca, Juquila (*coll. Sallé*), Milpas (*Forrer*), Jalapa (*Höge*).

I separate this species on account of the different pattern of its elytra, which have a triangular-shaped spot at the base surrounding the scutellum, and a very small spot between the basal and postmedian band on the lateral margin; this small spot is always present in this species, while in the variety *b* the band and other markings are represented by small spots, placed, however, in the same way as in the type. Of both forms I have sufficient material for comparison, but I have seen nothing intermediate. The punctuation of this species is rather more finely impressed, if anything, than in *S. variabilis*; the shape and other particulars are the same.

6. **Systena contigua.** (Tab. XIX. fig. 25.)

Testaceous below; antennæ and apices of the posterior femora stained with piceous; above testaceous; thorax with a black spot on each side; elytra with a triangular spot near the scutellum, another below the middle, and connected with a stripe at the lateral margin, black.

Var. *a*. Thorax unspotted.

Var. *b*. Below black, the elytral spots more elongate and widened, forming sometimes a transverse band.

Length 2½–3 lines.

Hab. MEXICO, Tuxtla, Juquila, Guanajuato (*coll. Sallé*), Jalapa (*Höge*); GUATEMALA, Aceytuno (*Salvin*), Dueñas (*Champion*).

Although not differing in any structural details from *S. variabilis* and *S. nigroplagiata*, the difference in the elytral pattern induces me to separate the present insect. In all the specimens under my observation there is a narrow sublateral black stripe connected with the posterior spot of the elytra, which latter assumes often the shape of a narrow transverse band, and is situated immediately below the middle; the underside of all the specimens, with the exception of one from Aceytuno (var. *b*), is testaceous; the elytral lateral stripe commences at the shoulder and extends to the second spot. The antennæ in *S. contigua* are also longer than in the allied species, and extend to two thirds the length of the elytra.

7. **Systena undulata.** (Tab. XIX. fig. 22.)

Testaceous; thorax and elytra finely punctured, the latter with a longitudinal sublateral stripe, the suture, a triangular spot at the base, and a transverse band below the middle black.

Var. Thorax with a black spot on each side; tibiæ obscure fuscous.

Length 2½–3 lines.

Hab. MEXICO, Cordova (*Höge*), Guanajuato (*coll. Sallé*).

In this species, which may after all be but a variety of one of the preceding, the pattern of the elytra is again different, although allied to *S. contigua*; the lateral stripe, instead of being connected with the posterior transverse band, as in that species, extends here below the middle and nearly to the apex; the posterior band is placed further backwards than in *S. contigua*, and, lastly, the sutural margin is always black. As these markings are constant in the four specimens before me, I am inclined to consider the species a distinct one, principally on account of the position of the elytral black transverse band.

8. **Systena apicicornis.** (Tab. XX. fig. 1.)

Flavous; breast, tibiæ, head, and antennæ black; the last four joints of the latter flavous; thorax fulvous, impunctate; elytra minutely punctured, black, subopaque, a spot at the base, the apex, and a transverse band at the middle flavous.

Length 2½ lines.

Head impunctate, black, shining, transversely grooved between the eyes, the carina distinct and acutely raised; antennæ half the length of the body, slender, the third and following joints of nearly equal length, black, the four terminal joints fulvous; thorax transversely subquadrate, the sides rather strongly rounded; the angles acute, the posterior ones obliquely cut, the surface pale fulvous, impunctate, the basilar groove

very feebly indicated; scutellum black; elytra scarcely visibly punctured, black, opaque, a small spot of irregular dentate shape below the base, a narrow transverse band at the middle and the apex flavous; first posterior tarsal joint nearly as long as the three following joints united.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

In several respects this species, of which but one specimen was obtained, differs from others belonging to the genus; the transverse groove between the eyes, the distinctly raised carina, as well as the more square-shaped thorax, are not generally found in *Systena*; however, the closed coxal cavities, the long metatarsus of the posterior legs, and the shape of the antennæ show the place of the species to be in the present genus, as other generic characters of importance are absent.

9. **Systena posticata.** (Tab. XX. fig. 2.)

Below testaceous; antennæ piceous, the four basal joints testaceous, stained above with piceous; head and thorax fulvous, the latter closely punctured; elytra punctured like the thorax, fulvous, their posterior half and a small spot near the scutellum (sometimes absent) black; apices of the femora above, the tibiæ and tarsi, piceous.

Length 2 lines.

Hab. MEXICO, Tuxtla (*Sallé*).

The coloration of this species, which is different from any of the varieties of *S. variabilis*, induces me to look upon it as the representative of another form; the antennæ have the four basal joints in both the specimens before me testaceous, the rest piceous; the black posterior portion of the elytra extends to the sutural, but not quite to the lateral margin, which remains of the ground-colour; the testaceous femora have all a black spot or streak on their upper surface near the apex and are finely pubescent.

10. **Systena championi.** (Tab. XX. fig. 11.)

Reddish fulvous; antennæ, tibiæ, and a spot on the posterior femora black; thorax and elytra closely and distinctly punctured, the former transverse.

Length 3 lines.

Hab. GUATEMALA, Panzos, Teleman (*Champion*).

In general shape this species has nothing to distinguish it from many of its allies. I have separated it on account of the distinctly punctured thorax and the uniform reddish fulvous colour of the upper surface. The antennæ are almost entirely black, with the exception of the underside of the basal joint; the third and fourth joints are of unequal length, the latter being a little longer than the preceding. The femora have a distinct black spot near their apices. The anterior and intermediate tibiæ are entirely black, the posterior tibiæ being fulvous at their base only. On account of the punctured thorax and uniform colour this species cannot be mistaken for one of the varieties of *S. variabilis*.

11. **Systena dilatipennis.** (Tab. XX. fig. 12.)

Elongate, widened behind, black; head and thorax rufous; elytra obscure testaceous, sparingly and finely punctured.

Length 2 lines.

Head impunctate; frontal tubercles distinct and divided by a rather deep groove; labrum and palpi black; antennæ about two thirds the length of the body, entirely black, the third joint one half longer than the second, fourth slightly longer than the preceding, the following joints more elongate; thorax scarcely broader than long, distinctly narrowed anteriorly, the sides nearly straight and slightly sinuate or concave in front of the anterior angles, surface entirely impunctate and dark fulvous or rufous like the head, shining; the transverse basilar groove rather distinct and limited at each end by a more deeply impressed fovea; scutellum piceous; elytra distinctly widened behind the middle, pale testaceous, the suture very narrowly black, the disc impressed anteriorly with some irregular double rows of punctures, which disappear almost entirely behind the middle; underside and legs black.

Hab. Panama, Volcan de Chiriqui (*Champion*).

The shape of the thorax and its basilar groove in this species is quite different from any of its allies; the thorax is much narrower than the elytra; the elytra are distinctly widened behind, and much narrowed towards the base. These characters, in connection with the colour of the insect, will help to distinguish it.

12. **Systena elongata?**

Galeruca elongata, Fabr. Suppl. Ent. Syst. p. 99 (1798)[1].

Altica elongata, Oliv. Ent. vi. p. 694, t. 3. f. 45[2].

Hab. North America[1 2].—Guatemala, Dueñas, Capetillo (*Champion, coll. Sallé, mus. Stuttgard*).

It is not without considerable doubt that I refer the Guatemalan specimens before me to Fabricius's species, as the authors quoted above describe the colour as "æneous," while all the specimens I have for comparison are black without any metallic gloss; they agree, however, as far as one may judge from the short and insufficient descriptions, in the main points. The species seems, however, to be a most variable one, although from the same localities; the following description will help to recognize the insect:—Below black; anterior legs, base of the antennæ and that of the posterior tibiæ, elytral epipleuræ and thorax testaceous; the thorax transverse, remotely but distinctly punctured, the sides often piceous; elytra black, closely and more strongly punctured, obsoletely depressed below the base, a narrow longitudinal vitta, slightly curved at the base and abbreviated before the apex, yellowish; this vitta is placed slightly nearer to the suture than to the lateral margin; head with a few punctures, darker than the thorax; antennæ with the third and fourth joints slender and equal.

Var. *a.* Smaller, almost entirely black, the elytral vitta only indicated at the base by a yellow round spot.

Var. *b.* Head fulvous, thorax with the margins obscure fulvous.

Var. *c.* Head fulvous, rest as in var. *a*, elytra with an additional spot near the apex.

The last variety (*c*) seems almost entirely to agree with *S. basalis*, Jacq. Duv., and

also described by Suffrian in his Cuban insects; but this species is also æneous and not black in colour; it is, however, quite possible that the present is but a variety of the latter insect or even of *S. pectoralis*, Clark. Numerous specimens from different localities are absolutely necessary to come to a conclusive opinion in regard to these closely allied forms.

13. **Systena chloropus.** (Tab. XIX. fig. 14.)

Systena chloropus, Harold, Coleopt. Hefte, xv. p. 12 (1876) [1].

Hab. COSTA RICA, Volcan de Irazu (*Rogers*); PANAMA, Volcan de Chiriqui (*Champion*).—COLOMBIA [1].

The description of this species agrees so well with the two specimens from the above localities that I must refer them to Von Harold's insect; this author remarks that the species is a very variable one, and the specimens before me seem to represent one of the varieties with transverse yellow bands; one of them (from Panama) is larger than the other, the thorax dark fulvous, the head and elytral bands are black, the latter extend to the margins, and the first two are connected at the suture and lateral margin; the specimen from Costa Rica has a flavous thorax and olive-green legs, and the elytral flavous bands are narrow and more regular, and do not extend to either margin.

14. **Systena ustulata.** (Tab. XX. figs. 17, 18.)

Systena ustulata, Harold, Coleopt. Hefte, xiv. p. 31 (1875) [1].

Hab. GUATEMALA, Chiacam, Tamahu, San Juan in Vera Paz (*Champion*); NICARAGUA, Chontales (*Janson*); PANAMA, David, Volcan de Chiriqui (*Champion*).—COLOMBIA [1].

Of this small species I possess a typical specimen, kindly given to me by M. Oberthür, with which those from Panama entirely agree. The specimens obtained from Guatemala and Nicaragua differ in having the elytra with a narrow lateral and sutural piceous margin, which colour does not widen at the apex as in the type; Von Harold says, however, that the species is very variable in colour, and as the elytra in all the specimens agree in the very obsolete punctuation, and I cannot find any other marks of distinction, I think I am right in referring all the insects to *S. ustulata*. In this species the first joint of the posterior tarsi is longer than usual, the thorax is also more transverse and convex, and altogether the shape is not that of a typical *Systena*.

15. **Systena metallica.** (Tab. XX. fig. 13.)

Black; thorax subquadrate, closely punctured; elytra metallic green, closely and strongly punctured, the punctures arranged in irregular rows.

Var. *a*. Three basal joints of the antennæ fulvous.

Var. *b*. Elytra cupreous.

Length $1\frac{1}{2}$–$1\frac{3}{4}$ line.

Head impunctate; frontal tubercles narrow and transverse; third and fourth joints of the antennæ equal; thorax subquadrate, the sides rounded and rather distinctly narrowed at the base; surface rather closely covered with round and distinct punctures, black, the basilar sulcation very slightly indicated at the sides only, and almost entirely obsolete in the middle; scutellum black; elytra parallel, much wider at the base than the thorax, the base distinctly raised, the surface more closely and rather more strongly punctured than that of the thorax, and the punctuation here and there arranged in irregular double rows; underside and legs black, the anterior femora sometimes piceous or fulvous.

Hab. GUATEMALA, Quezaltenango (*Champion*).

The shape of the thorax in this species is less transverse than usual, and the basilar groove less clearly defined. The closed anterior coxal cavities and other structural characters are, however, the same as in *Systena*. *S. metallica* may be known from the other species of the genus by its metallic elytra and black punctured thorax, in connexion with its small size. Twenty-five specimens were obtained.

16. **Systena viridipennis.** (Tab. XX. fig. 3.)

Below black; basal joints of the antennæ, thorax, and legs fulvous; head and elytra metallic green, the latter closely punctured.

Var. Thorax blackish green; posterior femora black.

Length $1\frac{3}{4}$ line.

Head rather finely and remotely punctured, metallic green; lower part of face testaceous; frontal tubercles scarcely visible; antennæ more than half the length of the body, the four basal joints testaceous, the rest fuscous, third and fourth joints equal; thorax transverse, fulvous, the basal groove rather distinct and sinuate, surface punctured like the head, the punctures, however, rather larger; scutellum black; elytra metallic green, closely rugose-punctate; legs fulvous; underside black.

Hab. MEXICO, La Parada (*coll. Sallé*).

Of this very distinct species two specimens are known to me; they do not differ in structural characters, but only in regard to colour. The specimen which I have noticed as a variety has the thorax nearly black, the anterior femora spotted with black, and the posterior ones entirely of that colour; this species is very distinct on account of the metallic green elytra.

17. **Systena regularis.** (Tab. XX. fig. 14.)

Testaceous; base of the head and two spots on the thorax obscure greenish piceous; elytra closely punctate-striate, testaceous, the base more or less distinctly metallic green.

Length 1 line.

Head impunctate; frontal tubercles transverse, narrow; antennæ with the third and fourth joints equal, terminal joints more or less fuscous; thorax one half broader than long, the sides rounded and widened before the middle, the transverse sulcation moderately distinct and more plainly marked at the sides, the surface finely punctured, testaceous, the sides with a broad longitudinal piceous spot; elytra very little widened behind, depressed towards the somewhat raised base, the surface closely and distinctly but not very regularly punctate-striate, the punctures distinct to the apex; at the base and surrounding the scutellum is a more or less distinct metallic greenish spot, the rest of the surface testaceous with a slight metallic gloss; underside and legs testaceous.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

Although the elytra are not confusely punctured as in all the other species of

Systena known to me, all the other characters peculiar to the genus are present; the punctuation of the elytra alone does not seem sufficient to me to justify placing the insect in another genus. Clark has also described two species in which the elytra are punctate striate. Six specimens are before me.

18. **Systena coxalis.** (Tab. XX. fig. 19.)

Black; base of the antennæ and tibiæ testaceous; thorax impunctate; elytra dark blue, nearly impunctate and slightly wrinkled.

Length 1 line.

Head impunctate, black; the frontal tubercles narrow and transverse, and limited behind by a transverse groove; antennæ half the length of the body, the three basal joints and the base of the fourth testaceous, the rest black; third and fourth joints equal in length; thorax one half broader than long, of equal width, the sides rounded and narrowly margined, the basilar sulcation distinct and extending to the sides, the surface impunctate, black, the anterior angles obtusely rounded; scutellum black; elytra slightly widened towards the apex, with a transverse depression near the base, the base with a few fine punctures, the general surface somewhat uneven and transversely wrinkled; underside and legs black; the extreme base of the femora and tibiæ testaceous.

Hab. GUATEMALA, Dueñas (*Champion*).

The thorax in this species is rather different in shape from most of the allied forms, being even in width, finely margined, and with rounded sides. In the absence of any other characters, however, and on account of the closed coxal cavities, I have preferred to leave this species in *Systena*.

19. **Systena longicornis.** (Tab. XX. fig. 16.)

Below black; antennæ long, their basal joints, with the head, thorax, and legs, fulvous; elytra metallic greenish æneous, closely punctured.

Length 1 line.

Head somewhat rugosely punctured near the eyes; frontal tubercles small but distinct; palpi fulvous; antennæ nearly as long as the body, the four or five basal joints fulvous, the rest black, the third and fourth joints elongate and equal in length; thorax transverse, nearly twice as broad as long, the sides nearly straight, very slightly rounded at the middle, the basilar sulcation only indicated at the sides by a shallow impression; scutellum broad, triangular, black; elytra a little widened behind, transversely depressed near the base, of a greenish brassy metallic colour, the surface closely punctured, the punctures more distinct at the base than near the apex.

Hab. GUATEMALA, Chiacam (*Champion*).

The shape of the thorax and the length of the antennæ in this species make it doubtful whether the present genus is the proper place for it; but rather than augment the numerous genera of Halticinæ I have preferred to include the species in *Systena*, on account of the closed coxal cavities and the indication of a thoracic groove. Five specimens are before me.

20. **Systena scutellaris.**

Testaceous; thorax minutely punctured; elytra closely punctate, a narrow sutural and sublateral stripe and a small spot near the scutellum black; outer edge of the tibiæ piceous.

Length 2½ lines.

Head entirely impunctate; antennæ slender, half the length of the body, the four basal joints testaceous, the rest black, the fourth joint slightly longer than the third; thorax about one half broader than long, the basilar groove obsolete, surface extremely finely punctured when seen under a strong lens; scutellum testaceous, with a piceous spot; elytra more distinctly punctured than the thorax, pale testaceous, subopaque, the suture and a sublateral very narrow stripe black; the former slightly widened behind the middle, and both abbreviated before the apex; between the two stripes a small spot is placed near the scutellum; underside and legs, with the exception of the outer side of the tibiæ and a small spot at the apex of the posterior femora, testaceous.

Hab. Mexico, Jalapa (*Höge*).

One specimen only was obtained.

21. **Systena s-littera.**

Crioceris s-littera, Linn. Syst. Nat. ed. x. p. 373 (1758)[1]; Fabr. Syst. El. i. p. 464 (1801)[2].
Chrysomela s-littera, Degeer, Mém. v. p. 357, t. 16. fig. 21[3].
Galeruca s-littera, Fabr. Ent. Syst. i. 2, p. 35 (1792)[4].
Altica s-littera, Oliv. Ent. vi. p. 701, t. 4. fig. 60 (1808)[5]; Illig. Mag. vi. p. 148.
Systena sinuato-vittata, Clark, Journ. of Ent. ii. p. 403 (1865)[6].
Systena s-littera, Harold, Coleopt. Hefte, xiv. p. 30[7].

Hab. Mexico, Tuxtla, Teapa, Cordova (*coll. Sallé*); Guatemala, near the city (*Champion*); Nicaragua, Chontales (*Janson*); Panama, Volcan de Chiriqui, Bugaba (*Champion*).—South America [1 2 3 4 5], Venezuela [6], Colombia [7].

This is apparently a common and widely distributed species, and comparatively easily recognized by the sinuate *s*-shaped pale vitta of the elytra. The species has been fully described and figured by the above-named authors, but has not hitherto been recorded from Central America.

22. **Systena discicollis.** (Tab. XX. fig. 5.)

Systena discicollis, Clark, Journ. of Entom. ii. p. 403 (1865)[1].

Hab. Mexico [1], Guanajuato (*coll. Sallé*).

Whether this species, the type of which is contained in the British Museum, is really distinct or but a variety of the many nearly similarly-coloured allied forms, it is impossible to say, as only a single specimen served the author for his type. An examination of the latter by myself proves the thorax to be impunctate as Clark describes it; but the elytra are finely punctured and not impunctate, as stated in the description. Amongst the numerous specimens of *Systena* before me from Central America only one agrees sufficiently well with the type to justify its being considered identical. I may further add to Clark's description that the yellow elytral stripe is perfectly straight.

23. **Systena pectoralis.**

Systena pectoralis, Clark, Journ. of Entom. ii. p. 403 (1865)[1].

Hab. Mexico [1], Cordova, Oaxaca, Tepansacualco, Juquila (*coll. Sallé*); British

Honduras, river Sarstoon (*Blancaneaux*); Guatemala, near the city (*Salvin*, *Champion*), Aceytuno (*Salvin*), Capetillo, El Tumbador (*Champion*); Panama, Bugaba (*Champion*).

The description given by Clark of this species will apply to many nearly similarly coloured forms from the above localities; I look upon these as varieties only, as I might otherwise constitute a new species on nearly every specimen. It is a pity that Clark makes no mention of the width of the elytral black stripe, which would have acted as a better guide than the colour of the breast. I find, however, on examining the type contained in the British Museum, that the lateral elytral band is broad and of nearly the same width as the sutural one; in other specimens before me from different parts of Mexico, this same band is only half as broad, and the thorax is without dark markings at the sides, and the antennæ are almost entirely black; between these and the typical specimens intermediate forms occur, so that I think the species is a variable one, and perhaps identical with *S. blanda*, Melsh., or other insects described under different names.

24. **Systena brunneovittata.** (Tab. XX. fig. 15.)

Obscure fulvous; sides of the thorax, a sutural and sublateral elytral band, dark brown or piceous; elytra finely rugose-punctate; antennæ and legs fulvous.

Length 2 lines.

Head with a few very fine punctures round the inner margin of the eyes; frontal tubercles elongate, divided in the middle by a distinct groove; fourth joint of the antennæ distinctly longer than the third; thorax about one half broader than long, the basilar sulcation very distinctly marked, the surface impunctate; elytra finely rugose or wrinkled more or less distinctly in different specimens, dark fulvous, a narrow sutural and lateral stripe dark brown or piceous; these stripes are either abbreviated or united at the apex.

Hab. Guatemala, near the city (*Champion*).

That this species is really distinct from any other with which I am acquainted, is, I think, proved by the many specimens from the above locality agreeing in every respect with each other. The coloration of the insect is very different from all the allied species, being a uniform obscure fulvous with darker bands; these latter are very narrow, and the lateral stripe is placed at some distance from the margin; the darker sides of the thorax are often wanting; in others the sides of the breast and the posterior femora are spotted with brown; in all the specimens, however, before me, to the number of about thirty, the antennæ and legs are of the same uniform fulvous colour.

25. **Systena subcostata.**

Below black; head rugose-punctate, its base black; thorax obscure testaceous, closely punctured; elytra closely rugose-punctate, testaceous, the sutural and lateral margins black, sides with a short costa.

Length 2 lines.

Head closely rugose-punctate, the vertex black; frontal tubercles obsolete; epistoma testaceous; labrum piceous; antennæ half the length of the body, black, the joints nearest the head testaceous at the base, fourth joint longer than the third; thorax transverse, about one half broader than long, the base obsoletely transversely grooved, surface distinctly rugose-punctate; scutellum black; elytra punctured like the thorax, testaceous, a sutural and lateral stripe as well as the epipleuræ black; immediately below the

shoulder a short but distinct costa extends to beyond the middle of each elytron; legs testaceous, the apices of the posterior femora stained with piceous.

Hab. Mexico, Toxpam, Cordova (*coll. Sallé*).

It will not be difficult to recognize this species on account of the rugosely-punctured upper surface and the elytral costa; the black band at the lateral margin widens, in some specimens, at the middle; but is not united with the sutural band at the apex, the latter remaining of the testaceous ground-colour; the testaceous colour at the apex is double the width of the black portion.

26. **Systena subrugosa.**

Black or piceous below; base of the femora testaceous; upper part of head black; thorax rugosely punctured, piceous, margined with testaceous; elytra subrugose-punctate, black, a sublateral stripe testaceous.

Length $1\frac{3}{4}$–2 lines.

Head very finely punctured and transversely wrinkled between the eyes, when seen under a strong lens; vertex black, lower part of face testaceous; frontal tubercles rather strongly raised; labrum piceous; antennæ rather more than half the length of the body, robust, obscure piceous, the three basal joints and the base of the following testaceous, fourth joint slightly longer than the third; thorax subquadrate, sides distinctly narrowed near the base, the surface rugose-punctate, the basilar groove indistinct; scutellum black; elytra finely rugose near the base, the punctuation indistinct towards the apex, black, each elytron with a narrow yellow straight sublateral band from the base to the apex.

Hab. Mexico, Guanajuato (*coll. Sallé*).

The subrugose piceous thorax margined with testaceous and the narrow yellow elytral stripe are good distinctive characters of the present species, which is further characterized by the black and nearly smooth vertex of the head. The female is larger than the male, the antennæ are shorter, and the elytral yellow stripe is a little broader; the elytral epipleuræ in both sexes are black. Four specimens are contained in M. Sallé's collection.

27. **Systena thoracica.** (Tab. XX. fig. 4.)

Obscure blackish æneous; anterior legs testaceous; head and thorax strongly punctured, base of the latter testaceous; elytra strongly and closely punctured, each elytron with a narrow testaceous longitudinal band, abbreviated near the apex.

Var. The elytral band indicated at the base only.

Length 2 lines.

Head closely and strongly punctured; frontal tubercles distinct, the space in front of them testaceous; antennæ blackish æneous, the basal joints more or less testaceous inwardly, the fourth joint a little longer than the third; thorax not more than one half broader than long, slightly narrowed at the base, the basilar groove obsolete, the space behind the latter testaceous, surface strongly and rather closely punctured; elytra a little less strongly punctured than the thorax, more finely towards the apex than at the base, with a nearly straight testaceous band, placed nearer the sutural than the lateral margins, and extending from the base to within a little distance of the apex.

Hab. Mexico, Puebla (*coll. Sallé*); Guatemala, Dueñas, Zapote, San Gerónimo (*Champion*).

The strongly punctured head and thorax, as well as elytra, and the colour of the

basal thoracic portion are the distinguishing characters of the species before us; immature specimens are paler, but the sculpturing is the same; the insect cannot be mistaken for those with equally strongly-punctured thorax and elytra, on account of the smooth not rugose interspaces, and the colour of the thorax, which is the same in all the specimens before me. The variety noted above is from San Gerónimo; besides the almost entire want of the elytral pale stripe, the thorax is nearly uniformly blackish æneous (with only an *indication* of the yellow base), and the punctuation in general is less strongly impressed; I cannot, however, separate this form in any other respect, and believe it to be a local variety.

28. **Systena puncticollis.**

Flavous; last seven joints of the antennæ and the tibiæ fuscous; thorax fulvous, finely and closely punctured; elytra nearly impunctate, flavous, a sutural and sublateral narrow stripe, abbreviated at the apex, black.
Length 3 lines.

Head impunctate, the frontal tubercles scarcely raised; antennæ slender, more than half the length of the body, the four basal joints testaceous, stained with piceous above, the rest fuscous, third and fourth joints of equal length, slender; thorax one half broader than long, the basilar groove feeble but distinct, the surface closely and finely punctured throughout, fulvous; elytra broad, widened towards the middle, flavous as well as their epipleuræ, finely and more distinctly punctured anteriorly near the suture, the rest of the surface almost impunctate; a narrow sutural black stripe, narrowed near the middle, extends from the base to near the apex, another equally narrow band is placed immediately in front of the lateral margin and terminates at the same distance from the apex as the sutural band; underside and femora flavous; tibiæ above and tarsi fuscous.

Hab. Mexico, Panistlahuca (*coll. Sallé*).

The large size and broad shape in connexion with the closely punctured thorax will distinguish this species; whether the elytral stripes are always as narrow, or whether they are variable, I am unable to say, as only one specimen is before me.

29. **Systena bohemani.** (Tab. XX. fig. 7.)

Entirely pale fulvous; head and thorax closely punctured; elytra finely punctured, a dorsal vitta pale testaceous.
Length $1\frac{1}{2}$ line.

Hab. Mexico, Tuxtla (*coll. Sallé*).

Of this species three specimens are before me; from all others noticed here they are distinguished by their pale colour and the closely punctured head and thorax; the antennæ are rather short, the third and fourth joints are equal in length, and the terminal ones more or less fuscous; the elytral pale vitta is narrow, very slightly curved inwards at its middle, and placed nearer the sutural than the lateral margins; in one of the specimens this vitta is scarcely visible. This species is certainly distinct from any other described here, but may be identical with *S. pallidula*, Boh. The author makes, however, no mention of an elytral pale band, and unless his specimen was immature I must separate the present species.

30. **Systena semivittata.** (Tab. XX. fig. 9.)

Pale testaceous; head and thorax with a few fine punctures; elytra impunctate, the suture and an indistinct stripe near the margin pale fulvous.

Length 2 lines.

Head finely and distantly punctured, rather darker than the rest of the surface, obscure fulvous; antennæ longer than half the body, the fourth joint a little longer than the third, all the joints, especially the two basal ones, stained with piceous above; thorax broader than long, the lateral margins distinctly rounded before the middle, and from there to the base straight; basilar groove obsolete.

Hab. Mexico, Guanajuato (*coll. Sallé*).

This seems to be a rather doubtful species, which may turn out to be a pale variety of some other described form, or identical with *S. pallidula*, Boh. The two specimens before me agree, however, in every particular, and I thought it best to describe them, for the sake of completeness. The punctuation of the head and thorax can only be seen with a strong lens; the elytral sutural and submarginal stripes are very nearly obsolete, especially the latter, and of a pale brown colour.

31. **Systena salvini.** (Tab. XX. fig. 8.)

Black; base of the thorax and the four anterior legs testaceous; the disk of the thorax very finely punctured; elytra distinctly punctured, black, a narrow longitudinal discoidal stripe and the extreme apex fulvous.

Length $1\frac{1}{2}$ line.

Hab. Guatemala, Quiche Mountains 7000 to 9000 feet (*Champion*).

This little species, of which eight specimens are before me, is of a shining black colour, with the exception of the first joint of the antennæ, which is more or less testaceous at its base; the thorax, like that of *S. thoracica*, has the basal margin also testaceous, but the surface, unlike that species, is here scarcely visibly punctate, and even impunctate in some specimens; the elytra are shallowly and obsoletely depressed near the base, somewhat rugosely and strongly punctured, and have a very narrow dark fulvous stripe, placed nearer the sutural than the lateral margin, and abbreviated before the apex, the latter being itself narrowly testaceous; in some instances the elytral stripe is almost obliterated and only indicated at the base and apex; the epipleuræ are black; the posterior femora extend quite to the end of the elytra in the male insect; the head is impunctate and the frontal tubercles scarcely visible. As all the specimens before me agree in the above particulars, I cannot but consider them to represent a distinct species.

32. **Systena palmeri.**

Below obscure testaceous, the breast black; head distinctly punctured, sides of the thorax fuscous; elytra closely punctured, piceous, with a broad testaceous stripe near the suture, not curved at the base.

Length 2 lines.

Head with a few but very distinct punctures between the eyes, the vertex generally dark fulvous; frontal tubercles distinct; third and fourth joints of the antennæ equal in length, rather slender, the rest shorter, fuscous, the joints nearest the head more or less testaceous at their base; thorax one half broader than long, the basilar sulcation obsolete, the surface with a few fine and stronger punctures near the base; the sides fuscous or piceous; elytra closely and slightly rugose-punctate.

Hab. MEXICO, Saltillo in Coahuila (*Dr. Palmer*), Presidio (*Forrer*).

The testaceous elytral stripe in this species is broad and perfectly straight, and not narrowed at the base; the punctures in front of the eyes are very distinct; the elytral epipleuræ are obscure testaceous, and more distinctly of that colour immediately below the shoulder; the space below the base is not depressed. As there are sixteen specimens before me which all agree in the above particulars, and which I can keep perfectly separate from all the others, I thought it best to describe the species as new, even if it should prove identical with another. The short and insufficient descriptions of similarly coloured insects of different authors, often founded on single specimens only, are no guide to a certain determination, and nothing remains but to redescribe the species from certain localities to enable the student to recognize them with more certainty, even if they should prove afterwards to be identical with one or other insufficiently described form.

33. **Systena capitata.** (Tab. XX. fig. 6.)

Below black; base of the femora testaceous; base of the head fulvous, finely rugose; labrum black; thorax testaceous; elytra finely punctured, testaceous, the suture and a narrow longitudinal band at the middle of each elytron, abbreviated behind, black.

Length $2\frac{1}{4}$ lines.

Upper part of the head fulvous, the extreme base piceous, finely transversely rugose and punctured between the eyes; lower part of the face testaceous; frontal tubercles moderately distinctly raised; labrum and palpi black; antennæ obscure fulvous, the first joint and the apex of the following piceous, the last four joints entirely dark fulvous; thorax transverse, with a few extremely minute punctures, the basilar depression, as usual, rather obsolete; scutellum black; elytra more distinctly punctured than the thorax, the discoidal stripe narrow and of about half the width of the sutural one, and placed nearly between the lateral and sutural margins; elytral epipleuræ testaceous; legs of the same colour, the apices of the femora above and those of the tibiæ piceous; tarsal joints also stained with the same colour at their apices; underside black.

Hab. MEXICO, Guanajuato (*coll. Sallé*).

This seems to be a good and distinct species, which may be at once known by the finely wrinkled and punctured base of the head, the black labrum and underside, and by the position of the elytral stripe, which is not placed *near* the lateral margin, but at some distance from it. Two specimens agreeing in every way are contained in M. Sallé's collection.

34. **Systena laticollis.** (Tab. XX. fig. 10.)

Obscure greenish testaceous; the sixth, seventh, and eighth joints of the antennæ black; thorax transverse and narrow; elytra obsoletely punctate-striate, the interstices irregularly punctured, a round spot at the base and another below the middle dark brown.

Var. Entirely pale greenish testaceous.

Length 3 lines.

Head impunctate, the frontal tubercles divided by a deep groove; eyes prominent; antennæ two thirds the length of the body, slender, the third and following joints very elongate and each three times as long as the second, the three basal joints dark fulvous, the base of the two following ones piceous, the sixth to the

eighth joints black, the rest pale testaceous; thorax more than twice as broad as long, the sides narrowed at the base, distinctly widened and rounded before the middle, where a kind of broad angle is formed, the surface impunctate, obsoletely grooved near the base on either side; elytra rather flattened, very slightly widened near the apex, with a very obsolete depression near the base, the disc finely and rather indistinctly punctate-striate, the interstices everywhere closely punctured; immediately below the base a rounded dark brown spot is placed, and another of a more oblique shape is situated below the middle of each elytron; posterior femora moderately thickened, their tibiæ with a short spine; prosternum distinct.

Hab. GUATEMALA, Panima (*Champion*).

I have placed this species in *Systena* as it possesses all the characters of that genus with the exception of the shape of the thorax, which is much more transverse than is the case in the allied species. *Prasona balyi*, Harold, seems to be another closely allied species; in the latter, as well as in *S. laticollis*, the elytra are furnished with some few stiff hairs (not mentioned in my description), and the punctures are partly arranged in striæ.

35. **Systena marmorata.**

Fulvous; head distinctly, thorax finely, punctured; elytra punctate-striate, depressed below the base, the latter and two sublateral obscure spots testaceous, a spot below the middle near the lateral margin obscure piceous.

Length 1 line.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

Although the elytra in this species are punctate-striate, there is no other difference in structure to be found to justify its separation from the present genus; the insect shows, however, enough characteristic peculiarities to distinguish it from any of its allies. The head is distinctly punctured and has a well-impressed fovea between the antennæ; the latter are slender, rather long, and of usual structure, the third and fourth joints being equal in length; the thorax is finely and rather closely punctured and the basilar groove very distinct; the elytra have a well-marked depression below the base, giving the latter a raised appearance; their punctuation is fine but distinct and placed in regular rows; the coloration is rather peculiar, the fulvous colour being relieved by a testaceous obscure spot at the base, a spot on the middle, and another one below the latter close to the lateral margin; between the last two spots another obscure piceous spot is placed. As I have only a single specimen before me I am unable to say whether this coloration is constant; but I am inclined to believe that the reverse is the case, as all the markings are rather obscure.

36. **Systena quadraticollis.**

Blackish æneous; legs testaceous; apices of the posterior femora æneous; thorax square-shaped, the basal portion punctured; elytra finely punctate-striate.

Length $1\frac{1}{4}$ line.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

Like the preceding species, a single specimen only was obtained: it differs, however, sufficiently from any others of the genus to be considered distinct; the entire colour of the upper and under surface is a dark bronze; the head is impunctate, the frontal tubercles being elongate and distinct; the antennæ have the third and fourth joints of equal length, the former being obscure fulvous; the thorax is perfectly square-shaped, obsoletely transversely depressed near the base, this portion being distinctly punctured, the rest of the surface impunctate; the elytra are of parallel shape, regularly but finely punctate-striate, the base shows no trace of a depression; except the apices of the posterior femora which are dark æneous, the legs and tarsi are fulvous.

37. **Systena megasceloides.**

Subcylindrical, parallel; below, the head, thorax, antennæ, and legs fulvous; elytra metallic green or purplish, punctate-striate.

Length 1 line.

Head impunctate; frontal tubercles placed transversely; eyes prominent; antennæ half the length of the body, third and fourth joints equal, scarcely longer than the second; thorax about one half broader than long, the sides rounded at the middle, somewhat constricted at the base; basilar sulcation very obsolete, minutely punctured, the rest of the surface impunctate; scutellum fulvous; elytra narrow, parallel, and subcylindrical, distinctly depressed below the base, closely and distinctly punctate-striate, the punctures here and there somewhat irregularly placed; metatarsus of the hind legs as long as the two following joints together.

Hab. GUATEMALA, Cerro Zunil (*Champion*).

At first sight, this species seems to have little in common with most of its allies, the thorax and general shape of the insect resembling very nearly a species of *Megascelis*; it is, however, in my opinion very undesirable to establish a new genus on every slight difference of shape and form, and as long as the structural characters which are peculiar to the genus are present all species ought to be included in which the latter are to be found. This is the case with the insect in question, which is, however, characterized by the very obscure thoracic groove, punctate-striate elytra, and nearly cylindrical shape; all other characters are absolutely the same as in *Systena*: a single specimen has the elytra of a purplish hue.

CLAMOPHORA.

Clamophora, Chevrolat in d'Orbigny's Dict. Univ. Hist. Nat. iii. p. 734 (1843); Clark, Journ. of Entom. ii. p. 383 (1865).

The species which are included in this genus are generally of rather large size, and may be known principally by the transverse thorax, the sides of which are rounded to a much greater extent than is usually the case in the allied genera. All the species described till now are South American; the few from Central America now before me show some structural differences, which may perhaps hereafter be thought of sufficient importance to constitute a new genus, thus—the posterior margin of the thorax is perfectly

straight (not oblique at the sides), the prosternum is less abruptly deflexed posteriorly, and the general size of the insects is much smaller. But these differences are more of degree than of structure, and I prefer to place the species in *Clamophora* rather than create a new genus for them.

1. **Clamophora nigritarsis.** (Tab. XX. fig. 21.)

♂. Entirely fulvous; antennæ (the first joint excepted) and tarsi black; head and thorax impunctate; elytra finely semipunctate-striate.

♀. The thorax less transverse, the sides of the elytra costate.

Length 2 lines.

Head rather flattened, impunctate, with a short but deep groove immediately above the eyes, the frontal tubercles but slightly raised and continued in front to the clypeus, the carina absent; labrum and palpi piceous; antennæ nearly two thirds of the length of the body, black, the first joint fulvous, the third to the apical joint of nearly equal length; thorax of equal width, the sides strongly rounded and extending beyond the base of the elytra, all the angles obtuse and not produced, the basilar groove deeply impressed but narrow and well bounded at the sides by a longitudinal groove, this latter placed at but a short distance from the scutellum; nearer the sides another obsolete short depression may be seen when the insect is viewed in certain lights; the surface of the thorax impunctate; elytra very slightly convex, elongate, and narrowed near the apex, finely and closely punctured, the punctuation arranged in indistinct rows, the interstices very obsoletely raised in longitudinal costæ near the sides; tibiæ piceous; tarsi black, the anterior ones dilated in the male.

Hab. PANAMA, Volcan de Chiriqui, Peña Blanca 3000 to 4000 feet (*Champion*).

In the female, of which two specimens are before me, the thorax is much less transverse than in the male, and the elytral interstices are more or less longitudinally costate (in one specimen at the sides only). One male and two female specimens were obtained.

2. **Clamophora salvini.**

Oblong ovate, below black; above bluish black; head and thorax impunctate; elytra finely and closely punctured, the punctures arranged here and there in irregular double rows.

Length $1\frac{1}{2}$ line.

Head with a deep transverse groove extending to the eyes, the space behind this groove bounded at the middle by another obsolete depression, the frontal tubercles broad and of somewhat rounded shape; the carina also broadly trigonate, the clypeus divided in the middle by a strongly raised ridge, and the sides distinctly excavated; labrum and palpi piceous; antennæ more than half the length of the body, of the same proportionate construction as in the preceding species, the two basal joints sometimes fulvous; thorax of the same shape as *C. nigritarsis*, but rather less transverse proportionately, the surface impunctate, the basilar sulcation deeply impressed and bounded by an equally well-marked longitudinal lateral groove; elytra with very obsoletely raised interstices near the sides, finely punctured, the punctures more or less arranged in double rows.

Hab. GUATEMALA, near the city 5000 feet (*Salvin*)

This species, of which three specimens were obtained by Mr. Salvin, is easily known by the peculiar formation of the clypeus, and the extra fine groove surrounding a small space behind the frontal tubercles.

SANGARIA.

Sangaria, Harold, Coleopt. Hefte, xv. 1876, p. 13.

A species from Bogota served Von Harold for the erection of this genus, the principal characters of which consist in the long posterior femora, which project beyond the apex of the elytra, the thoracic groove closely approached to the basal margin, the short second and third joints of the antennæ, the punctate-striate elytra, and the closed anterior coxal cavities. All these characters apply perfectly to a species obtained abundantly by Mr. Champion, which I must therefore refer to Von Harold's genus and species.

1. **Sangaria haagi.** (Tab. XX. fig. 20.)

Sangaria haagi, Harold, Coleopt. Hefte, xv. 1876, p. 14.

Hab. MEXICO, Jalapa (*Höge*); GUATEMALA, Capetillo, Zapote, Sinanja, Las Mercedes (*Champion*); PANAMA, Volcan de Chiriqui, Bugaba, Caldera (*Champion*).

I have little doubt that the numerous specimens before me are identical with Von Harold's species, although there are some differences which would perhaps justify me in considering it as specifically distinct. I give here a renewed description of the species:—

Head impunctate, the frontal tubercles distinct and divided by a longitudinal groove; antennæ two thirds the length of the body, the third joint slightly longer than the second, the fourth joint as long as the two preceding ones together; thorax quadrate, scarcely broader than long, fulvous, the angles produced into a short tooth, the posterior ones sharply and obliquely cut, the posterior groove deep and its sides somewhat oblique and closely approached to the basal margin; elytra with the base distinctly raised, each elytron with about ten rows of closely approached and distinct punctures distinct to the apex, those at the sides somewhat transversely shaped and slightly rugose; prosternum narrow; first joint of the posterior tarsi as long as the three following ones united; anterior tarsi in the male dilated; tibiæ widened towards the apex and slightly channelled longitudinally, their apices as well as the tarsi black; femora as long as or longer than the elytra.

Von Harold gives the length of the antennæ as of that of the body; in none of the numerous specimens before me do they attain this length. The punctuation of the elytra is distinct to the apex, which is not the case according to the description of Von Harold. The tarsi and the apices of the tibiæ are black in most of the Central-American specimens, but in some they are reddish. The insect seems to be subject to great variation in size and colour, and even the sculpture of the elytra differs considerably. I have undoubted females from one locality before me which have the elytra either costate at the sides (from the shoulder to the middle) or smooth, and with the fourth joint of the antennæ double as long as in other specimens; yet I cannot find any other characters for separating these different forms; sometimes the antennæ have the three basal joints fulvous, sometimes they are entirely of that colour or black, and the same is the case with the underside. A well-marked character of the present genus is the

acute obliquely cut posterior margin of the thorax at the angles, which is much more decided and marked than in the genus *Disonycha*. Numerous specimens were obtained in Chiriqui, a single one only from Mexico, and a few from Guatemala, thus proving the rather wide distribution of the species.

PSEUDOEPITRIX.

Body narrowly elongate, parallel; antennæ filiform, the third joint slightly longer than the second, terminal joints slightly thickened; thorax quadrate, the sides straight, the surface obsoletely and transversely grooved near the base; elytra punctate-striate; posterior femora moderately thickened; tibiæ simple, the posterior ones with a minute spine; the first joint of the posterior tarsi as long as the two following joints united; prosternum very narrow; anterior coxal cavities closed; claws appendiculate.

The general appearance of the little species for which I propose the present genus is not unlike that of a small *Donacia* or *Lema*, on account of the square-shaped thorax, the sides of which are perfectly straight or even a little concave: the same shaped thorax is to be found in *Sangaria*, Harold. In this genus the posterior margin of the thorax is oblique at the sides, and the metatarsus of the hind tibiæ is as long as the three following joints united. In the present genus the thoracic groove is obsolete, and not limited laterally by another longitudinal groove. With *Crepidodera* the present genus cannot be confounded, as in that genus the thorax is always more transverse and the sides rounded, the surface also more convex and very little wider at the base than the elytra; the same remark applies to the genus *Epitrix*.

1. **Pseudoepitrix hirtipennis.** (Tab. XX. fig. 22.)

Pale testaceous; apical joints of the antennæ, the breast, and part of the abdomen piceous; thorax rugose-punctate; elytra punctate-striate, with rows of single hairs, the suture and a small spot near the base obscure fuscous.

Length 1 line.

Head with an obsolete depression round the inner margin of the eyes, impunctate, the vertex with an obscure piceous spot, the frontal tubercles short but distinct; antennæ more than two thirds the length of the body, the lower joints testaceous and stained with piceous above, the others black; thorax very little broader than long, the sides straight or slightly concave, the basal sulcation obsolete and indistinct at the sides, another still more obscure depression is placed close to the anterior margin, the surface closely and somewhat rugose-punctate; elytra distinctly wider at the base than the thorax, with regular rows of closely approached and distinct punctures, which are more finely impressed near the apex; the interstices between the punctures are beset with rows of single whitish hairs; the suture is narrowly fuscous, and a small obscure spot of the same colour is placed immediately behind the base; legs and the last two or three abdominal segments entirely pale testaceous; rest of the underside and the claws piceous or black.

Hab. Panama, Volcan de Chiriqui (*Champion*).

The general colour of the upper surface of this species is a pale testaceous, the thorax being sometimes almost whitish; in some specimens there is another very obscure spot placed below the middle of each elytron; the posterior femora are moderately incrassate. *P. hirtipennis* seems not to be uncommon in Chiriqui, to judge by the numbers obtained.

2. **Pseudoepitrix vittatipennis.** (Tab. XX. fig. 23.)

Black; head and thorax pale fulvous; the latter punctured at the base only; elytra punctate-striate, a longitudinal stripe from base to apex on the disc of each elytron flavous.

Length 1 line.

Head impunctate, obsoletely grooved round the inner margin of the eyes; labrum and palpi black; antennæ nearly as long as the body, black, the third and fourth joints equal in length; thorax slightly wider than long, narrowed at the base, the surface impunctate, except within the transverse basal groove, which is distinctly punctured, and extends across to the lateral margin; elytra rather finely and regularly punctate-striate towards the suture, more strongly near the lateral margin, the apex nearly impunctate; between the shoulder and the suture is a narrow but regular longitudinal yellow stripe, which extends from the base to a little distance from the apex, where it curves round towards the suture; this band occupies the space of the third interstice; entire underside and legs black.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

This species has still more the appearance of a small *Lema*, owing to the constriction of the thorax at the base and the square-shaped base of the elytra; the latter are without hairs; the thoracic groove is perhaps rather more distinct than in the preceding species, but the eyes are accompanied by a similar groove. Half a dozen specimens were captured.

CREPIDODERA.

Crepidodera, Chevrolat in d'Orbigny, Dict. Univ. Hist. Nat. iv. p. 334 (1844).

At present this genus is not particularly well defined; it contains species which, probably, will eventually have to be placed in separate genera for the sake of a more clearly defined characteristic of *Crepidodera* proper, if such is possible; but here, as well as in other genera, we find intermediate and doubtful structural characters. In the genus under consideration, those species of Halticinæ are placed which, in connexion with closed anterior coxal cavities, have a thoracic transverse basilar groove, generally, but not always, limited at the sides by a perpendicular depression, and punctate-striate elytra. Although the genus seems to be represented in nearly all parts of the world, no species have up to the present been described from Central America; but few specimens, of four or five species, are before me.

1. **Crepidodera chiriquensis.** (Tab. XX. fig. 25.)

Fulvous; antennæ and legs black; head and thorax impunctate; elytra finely punctate-striate.

Length $1\frac{1}{2}$ line.

Head obliquely grooved between the eyes; frontal tubercles strongly raised, oblique; lower part of the face and the labrum testaceous; apices of the mandibles black; palpi very slender, testaceous; antennæ half the length of the body, black, apex of each joint furnished with a few stiff hairs, third and fourth joints equal; thorax transverse, anterior margin straight, posterior margin slightly rounded at the middle, the sides rather evenly rounded, straight at the base, anterior angles obtuse, furnished with a single hair, basilar groove deeply impressed and bounded at the sides by an equally well-marked longitudinal groove, surface entirely impunctate; elytra slightly widened towards the apex, rather distinctly transversely depressed below the base, surface regularly punctate-striate, the apex nearly impunctate; underside and the base of the femora fulvous; legs and apices of the femora black.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

The colour of the legs and antennæ separates this from those in other respects similarly coloured species, notably *C. brasiliensis*, Baly, which latter has the legs and basal joints of the antennæ fulvous; the thorax in that species is also more transverse, and the frontal tubercles are nearly absent. A single specimen, amongst seventeen others, has the legs fulvous as well as the first joint of the antennæ. In other respects it is entirely similar.

2. Crepidodera semihirsuta.

Below black; head, antennæ, thorax, and legs fulvous; elytra metallic greenish blue, strongly punctate-striate.

Length 1 line.

Head impunctate; frontal tubercles distinct, rather broad, limited behind by an oblique groove; antennæ half the length of the body, the terminal joints thickened, the second joint nearly as long and as thick as the basal one, third and fourth joints equal; thorax transverse, the sides nearly straight, slightly rounded before the middle, basilar groove deep, slightly sinuate, and extending nearly to, and well defined at, the sides, surface smooth and impunctate; elytra subcylindrical, metallic greenish blue, strongly punctate-striate, the interstices sparsely furnished with single fulvous hairs, shoulders prominent.

Hab. GUATEMALA, Capetillo (*Champion*).

Although the coloration of *C. semihirsuta* is not unfrequently found in others belonging to the present genus, I am unable to refer it to any of the described species on account of the small size and the sparse but distinct pubescence of its elytra. With the genus *Epitrix* this species has the pubescence in common although to a less extent; but the thorax is that of a true *Crepidodera*, the posterior margin being but slightly advanced in the middle, and the anterior angles not oblique as in the allied genus.

3. Crepidodera guatemalensis.

Below black; legs and antennæ fulvous; above brownish æneous; thorax coarsely punctured; elytra strongly punctate-striate.

Length $\frac{3}{4}$–1 line.

Head impunctate; frontal tubercles forming oblique narrow ridges; antennæ robust, half the length of the body, fulvous, third and fourth joints equal; thorax transversely subquadrate; basilar sulcation deep and bounded by an equally deep rectangular lateral groove, surface strongly and rather closely punctured; elytra slightly depressed below the base, strongly, closely, and regularly punctate-striate; metatarsus as long as the two following joints together; legs fulvous.

Hab. GUATEMALA, Capetillo, Dueñas (*Champion*).

This small species well represents the typical form of *Crepidodera*, with which it agrees in all structural characters; in colour it may be compared to *C. elegantula*, Baly, or even to the European *C. helxines*; from these and other species it is principally distinguished by the coarsely punctured thorax in connexion with its small size.

4. Crepidodera pallipes.

Below black; above metallic greenish æneous; antennæ and legs testaceous; thorax impunctate, the transverse groove indistinct in the middle; elytra with the base strongly raised, distinctly punctate-striate.

Length 1 line.

Hab. GUATEMALA, Aceytuno, Totonicapam 10,500 feet (*Champion*).

The nearest allied species to the present one seems to be *C. rugata*, Har., from which it differs in the pale testaceous colour of the antennæ and legs, in the less deeply impressed thoracic groove, and in the punctuation of the elytra, which in *C. pallipes* is much finer, the interstices being flat and not convex; the base of the elytra is still more swollen than in the allied species. In the specimen from Aceytuno the posterior femora are stained with piceous; but I am not able to find any other difference.

5. Crepidodera (?) obliterata.

Testaceous or obscure fulvous; intermediate joints of the antennæ black; thorax convex, the transverse groove scarcely visible, impunctate; elytra finely punctate-striate, depressed below the base.
Length 1–1½ line.

Hab. GUATEMALA, Senahu, San Juan in Vera Paz, Panima (*Champion*); PANAMA, Bugaba (*Champion*).

It would perhaps have been justifiable to establish another genus for this insect, which has nearly lost the characters peculiar to *Crepidodera*, and is without doubt an intermediate form. The head shows no trace of punctuation, and the frontal tubercles are distinct and not transverse; the antennæ are rather slender, more than half the length of the body, the third and fourth joints of equal length, and the sixth to the tenth joints generally black (in some specimens only the eighth to the tenth are black); a single specimen from Bugaba (probably a male) has the last four joints slightly triangularly dilated, the antennæ being altogether more robust; the thorax is about one half broader than long, the sides being strongly rounded; in some specimens the basilar groove is only just visible with a strong lens, while in others it may almost be called absent, sometimes it is only indicated by a transverse row of small punctures; the elytra show a distinct transverse basal depression and are of parallel shape; their surface is finely punctate-striate, but the punctuation is nearly invisible at the apex; the other characters are as in *Crepidodera*. The ten specimens before me show no perceptible variation of importance.

MESODERA.

Body oblong-ovate; head grooved between the antennæ; frontal tubercles strongly developed; eyes entire; antennæ robust, long, tapering towards the apex; thorax transversely subquadrate, the sides slightly rounded towards the middle; basilar sulcation deep and extending a short distance up the sides, the lateral grooves indistinct; elytra finely punctate-striate; posterior femora strongly incrassate, their tibiæ simple, armed at the apex with an exceedingly minute tooth; first joint of the posterior tarsi as long as the two following joints united; claws appendiculate; prosternum very distinct, longitudinally channelled, closing the anterior coxal cavities.

The insect for which I propose the present genus, is undoubtedly allied to *Crepidodera*; the latter genus contains, however, amongst its exotic members many species which I

think ought to be separated for the sake of a better definition of the genus. In *Mesodera* the frontal tubercles are very greatly developed in both sexes, of a trigonate shape, and divided, as well as limited behind, by a deep groove; the antennæ are very robust in the male, thickened at the base, but gradually attenuated towards the terminal joints, the third joint being double the length of the second; each joint is also covered with distinct hairs which form an outside fringe; the basilar thoracic groove is not distinctly bounded by a lateral impression, but extends a short distance upwards; the tibiæ may almost be called unarmed, as, with a strong lens, I am only just able to discover a very minute spine at the apex of the posterior pair in one specimen, in others I am not able to see it. The species has only been obtained in one locality.

1. **Mesodera fulvicollis.** (Tab. XX. fig. 24.)

Underside, antennæ (the first joint excepted), and legs black; head and thorax fulvous, impunctate; elytra violaceous blue, finely and regularly punctate-striate.

Length 1½ line.

Head deeply grooved transversely between the antennæ; frontal tubercles trigonate, very broad and strongly raised; labrum testaceous; apical joint of the palpi acute, piceous; antennæ nearly as long as the body in the male, shorter in the female, all the basal joints very robust and thickened, the third nearly double as long as the second, the following of nearly equal length, basal joint fulvous, the rest black, pubescent at the sides; thorax scarcely more than one half broader than long, moderately convex, the sides slightly rounded to below the middle, a little constricted at the base, the angles distinct but not produced, basilar sulcation deep, gradually approaching the posterior angles, but extending slightly upwards at the sides, surface entirely impunctate; scutellum semiovate, its apex broadly rounded, black; elytra broader than the thorax, with a very shallow and rather indistinct transverse depression below the base, dark blue, shining, each elytron with ten rows of very fine, regularly and closely placed punctures, distinct to the apex; legs rather robust, the tibiæ widened towards their apices; anterior femora and their coxæ often fulvous, sometimes black.

Hab. GUATEMALA, Cubilguitz (*Champion*).

The elytra have the punctures so closely placed as to have an appearance of striæ rather than punctures; the interspaces are not raised.

EPITRIX.

Epitrix, Foudras, Hist. Natur. Col. Altises, p. 308 (1860).

Epitrix, although very closely allied to *Crepidodera*, offers in most instances sufficient structural differences to justify its separation, although cases are also here not wanting in which the true place of certain species is difficult to determine, and merely a matter of opinion.

Typical forms of *Epitrix* have an oval-shaped body, generally covered with pubescence, a medially produced posterior thoracic margin, and obliquely shaped or cut anterior angles of the thorax. The genus seems better represented in Central America than *Crepidodera*, judging by the specimens obtained; but no species from our country have up to the present been described, nearly all the known New-World forms having been

obtained in North or South America. Species of *Epitrix* are also found in Europe, including England. They appear to affect principally plants of the orders Solanaceæ and Cucurbitaceæ, and are sometimes to be met with in vast profusion, and in North America one species at least apparently doing a good deal of mischief.

1. **Epitrix violacea.** (Tab. XXI. fig. 1.)

Below and the legs black; three basal joints of the antennæ obscure fulvous; above metallic violaceous blue, thorax finely punctured; elytra strongly punctate-striate.

Length $1\frac{1}{4}$ line.

Head impunctate, except round the inner margin of the eyes, where a few deep punctures are placed; antennæ nearly two thirds the length of the body, the three lower joints fulvous beneath, the rest black, second and third joints of very nearly equal length; thorax twice as broad as long, the posterior margin of the usual shape as well as the anterior angles, basilar sulcation distinct at the sides only and very obsolete near the middle, surface (when seen under a strong glass) very finely punctured; elytra convex and nearly parallel, slightly depressed below the base, strongly and regularly punctate-striate, the punctuation scarcely finer at the apex than at the base, interstices flat and without hairs; underside and legs black; prosternum broad, square-shaped, strongly punctured.

Hab. GUATEMALA, Cerro Zunil (*Champion*).

One or two similarly coloured species have been described by Mr. Baly; of these the present insect seems nearly to agree with *E. cyanella*, of which I have the type for comparison. The insect described here is larger (Mr. Baly gives the size of the species in question as $1\frac{1}{4}$ line; I find it to be, however, scarcely one line in length), the thoracic basilar groove almost obsolete in the middle (in *E. cyanella* it is very distinct), the elytra without pubescence; in both the specimens obtained the underside and legs are black.

E. segregata, Baly, has a longer thorax and the basilar groove more deeply impressed.

2. **Epitrix puncticollis.**

Black below; four basal joints of the antennæ fulvous; thorax finely but distinctly punctured, metallic green or bluish; elytra of the same colour, strongly punctate-striate.

Length 1–$1\frac{1}{4}$ line.

Hab. GUATEMALA, Aceytuno, Capetillo, Dueñas (*Champion*).

From *E. violacea* the present species differs in the much more distinctly punctured thorax, the four light fulvous basal joints of the antennæ, and the metallic bright green colour of its upper surface; the thoracic groove also is much more distinct. As these differences are constant in the ten specimens before me, I have no doubt about the specific distinction of the species. The elytra are also devoid of hairs as in the allied species; in all the specimens obtained the fulvous joints of the antennæ are brightly coloured and not stained with piceous, and the fourth joint slightly shorter than the third.

3. **Epitrix thoracica.** (Tab. XXI. fig. 2.)

Ovate, narrowed at the apex; piceous below; above dark æneous; basal oints of the antennæ, and the anterior legs, fulvous; thorax finely rugose-punctate; elytra strongly punctate-striate, the interstices costate at the sides.

Length $\frac{3}{4}$ line.

Head impunctate; frontal tubercles oblique, indistinct, bounded behind by a narrow impressed line; antennæ gradually but distinctly thickened at the terminal joints, all of them, with the exception of the first, of nearly equal length, black, the four basal joints fulvous; thorax transversely subquadrate, proportionately long, the posterior margin very slightly rounded and scarcely produced at the middle, the sides very slightly widened towards the apex, anterior angles oblique, basilar groove straight, not very deeply impressed, its lateral depression also rather obsolete and placed close to the posterior angles, surface either finely or more strongly rugose-punctate; elytra ovate, scarcely wider at the base than the thorax, widened at the middle and narrowed near the apex, the latter rather pointed, surface regularly, closely, and strongly punctate-striate, the punctuation much more finely impressed towards the apex, the interstices, especially near the sides, longitudinally costate; posterior legs more or less stained with piceous, anterior legs fulvous.

Hab. Guatemala, Quiche Mountains, Totonicapam (*Champion*).

In this species a good many of the typical characters of the genus are wanting, or at least modified; the thorax does not show the usual shape of the posterior margin, the anterior angles are less acutely oblique, and the pubescence of the elytra is entirely absent; this latter want the species has, however, in common with several others, and as, moreover, the insect does not represent a typical form of *Crepidodera*, I have placed it in the present genus. It cannot be mistaken for any of the allied species (described for the most part by Von Harold) on account of the peculiar long thorax, the punctuation of which seems, however, subject to great variation, as I have specimens before me differing in no other respect whatever, which have a very finely punctured thorax, and others in which the same part is nearly rugose-punctate throughout; the former case, however, is that of a single specimen only. Another distinctive character of the species is the elytral costæ, which are well marked at the sides, and the absence of any pubescence. Taking it altogether the insect seems to represent a form between *Crepidodera* and the present genus.

4. **Epitrix atripes.**

Epitrix atripes, Harold, Coleopt. Hefte, xiv. p. 39 (1875)[1].

Hab. Guatemala, Cerro Zunil (*Champion*); Costa Rica, Volcan de Irazu (*Rogers*); Panama, Volcan de Chiriqui (*Champion*).—Colombia [1].

Many closely allied and nearly similarly coloured species, of which the present is one, have been described, principally by Herr von Harold in the 'Coleopterologische Hefte.' It requires a long series of specimens to come to some definite conclusion about their specific value, as I find that many species from the same localities seem subject to considerable variation in colour as well as in sculpture. On account of this variability it is often extremely difficult, if not impossible, to refer with certainty many forms to one or other described species; and although, through the kindness of M. Oberthür, I

am in possession of most of the types described by Von Harold, I can only refer approximately the many species now before me from Central America, pointing out their variation (if any) from those species to which they are most nearly allied. The present insect may be known by the finely punctured thorax, its black antennæ (with the exception of the basal joints), and the similarly coloured legs; I cannot find any difference from the Colombian form, the type of which I have before me, except that the punctuation of the thorax which in most specimens is extremely fine is in others a little more distinct.

5. **Epitrix fuscata?**

Crepidodera fuscata, Jacq.-Duval, in La Sagra's Hist. Phys. Cuba, vii. p. 130[1].

Hab. GUATEMALA, Zapote (*Champion*).—CUBA[1].

The synonymy of this species and several others is not at all clear, and without comparison of the different types almost impossible to settle. The numerous specimens obtained by Mr. Champion agree so well with the descriptions given by the above author, and also by Suffrian in Wiegm. Archiv, 1868, that it would be useless to establish another species merely because the locality differs, especially as Von Harold has described another closely allied species (*E. hirtula*) of whose specific distinction he is doubtful. The Zapote specimens have the thorax rather closely covered with deep punctures (when seen under a strong lens), and the basilar groove well marked, sinuate, and the space below it marked also with a few fine punctures; the elytra are strongly punctate-striate, and the interstices covered with whitish pubescence; the antennæ and legs are fulvous, the posterior femora piceous. All this agrees exactly with the description of the author, but the possibility of the present insect being, in spite of it, specifically distinct, is not excluded. *E. pubescens*, Koch, is also considered identical with the present species by Illiger (Magaz. vi. p. 112), although the latter is found in Europe (including England), and, according to Illiger, also in North America. But this most certainly requires corroboration, and Crotch in his descriptions of North-American Phytophaga makes no mention of *E. pubescens*; since a great number of very closely allied forms of *Epitrix* seem to exist in many parts of the Old and New World it would be rash to jump to conclusions without careful study and sufficient material.

6. **Epitrix clypeata.**

Minute, ovate, black; antennæ, tibiæ, and tarsi testaceous; clypeus and labrum fulvous; thorax minutely punctured, with a finely impressed straight transverse groove; elytra finely punctate-striate.

Length $\frac{1}{2}$ line.

Hab. BRITISH HONDURAS, Belize (*Blancaneaux*); GUATEMALA, Lanquin (*Champion*).

I am not acquainted with any other broad ovate species of this small size. *E. pygmæa*,

Har., is, although small, larger than the present species, and not black but piceous; the thoracic groove in the insect before me is very finely impressed, in one specimen nearly obsolete, and the punctuation extremely fine; I cannot discover any pubescence on the elytra, which, as well as the entire upper surface of the insect, are black and shining; the labrum, antennæ, tibiæ, and tarsi are fulvous or testaceous; two specimens from Belize have the thoracic basilar groove more marked, but I am unable to distinguish them in any other way from the Guatemalan insects; in all of them the clypeus and the labrum are darker or paler fulvous.

7. Epitrix cucumeris.

Haltica cucumeris, Harris, Journ. of Agricult. i. p. 103 (1851)[1].
Epitrix cucumeris, Crotch, Proc. Ac. Phil. p. 72 (1873)[2].
Haltica pubescens, Illig. Magaz. f. Insekt. vi. p. 58[3].

Hab. North America[1 2 3].—Guatemala, near the city, Dueñas (*Champion*).

The Guatemalan insects before me agree so closely with a North-American specimen contained in my collection, and also with the descriptions given by the above-named authors, that I have little doubt about their specific identity. The elytra in this species are rather closely covered with yellowish hairs; the thorax is distinctly punctured; and the legs and antennæ are more or less testaceous, the posterior femora only being darker, and also, in some cases, the terminal joints of the antennæ. *E. hirtula*, Har., seems only to differ in the darker legs and antennæ, and is therefore either only a variety or an extremely closely allied species. *E. cucumeris* is stated by Harris to be very destructive to cucumber-vines.

8. Epitrix montana.

Black; four or five basal joints of the antennæ, and the base of the tibiæ, fulvous; head smooth; thorax coarsely punctured; elytra covered with yellowish pubescence, very strongly punctate-striate, the interstices obsoletely and longitudinally costate.
Length 1 line.

Hab. Mexico, Cordova (*coll. Sallé*), Saltillo in Coahuila (*Dr. Palmer*); Guatemala, Quiche Mountains 7000 to 9000 feet (*Champion*).

I here give the description of a species which I can only compare, on account of the coarsely punctured thorax, to *E. fuscula*, Crotch. The description is, however, so unsatisfactory and short that without comparison with the type no conclusion can be arrived at. In the insect before me the thorax is closely covered with very deep and large punctures, the basilar groove runs parallel with the posterior margin and is deeply impressed; the elytral punctuation consists of still larger punctures than those of the thorax, but forms impressed striæ only near the apex; the first and second joints of the antennæ are, in one specimen, black, in another the second is fulvous, the next three or four joints are also of the latter colour, and the terminal ones again black; the base of the

tibiæ, as well as of the tarsi, are more or less fulvous; the elytra are without any basal elevation or depression whatever. *E. hirtula*, Har., has a *finely* punctured thorax; and *E. cucumeris* entirely yellow legs.

9. **Epitrix minuta.**

Black, shining; antennæ and anterior tibiæ testaceous; thorax extremely finely punctured, its basilar groove straight; elytra closely punctate-striate, sparingly pubescent, the punctuation distinct to the apex, the interstices obsoletely costate.

Length $\frac{1}{2}$–$\frac{3}{4}$ line.

Hab. GUATEMALA, San Juan in Vera Paz (*Champion*).

I am obliged to separate this species from *E. lucidula*, Har., to which it is closely allied; it differs in being smaller, and of a more broadly ovate shape; the thorax is rather shorter and more transverse, and the elytra are differently sculptured; this difference consists in the punctures of the latter being very closely placed so as to produce almost a striæ-like appearance, and moreover distinct to the apex, while the interstices, especially near the sides, are slightly longitudinally costate; the posterior legs are more or less stained with piceous, the anterior tibiæ, however, as well as the slender antennæ, are testaceous. The eight specimens obtained are all constant in these particulars, and without doubt distinct from *E. lucidula*, Har., of which I have a typical specimen for comparison.

10. **Epitrix nigroænea.**

Epitrix nigroænea, Har. Coleopt. Hefte, xiv. p. 36 (1875)[1].

Hab. MEXICO, Orizaba (*coll. Sallé*).—COLOMBIA[1].

I cannot find sufficient differences between the Mexican and the Colombian insects to justify a separation. The former are smaller, and the colour less brassy than in the specimens from South America; in all other respects they agree with the typical form.

11. **Epitrix opacicollis.**

Epitrix opacicollis, Harold, Coleopt. Hefte, xiv. p. 40 (1875)[1].

Hab. NICARAGUA, Chontales (*Janson*).—COLOMBIA[1].

Two specimens obtained by Janson agree well enough with a typical example contained in my collection to be considered identical; the species is one of the smaller sized, and has fulvous antennæ and anterior legs; in the Chontales specimens the thorax is a little less closely punctured; other differences I cannot find.

12. **Epitrix fuscula?**

Epitrix fuscula, Crotch, Proc. Ac. Phil. 1873, p. 72[1].

Hab. NORTH AMERICA[1].—MEXICO, Guanajuato (*coll. Sallé*).

A single specimen in the Sallé collection, agreeing with the short description given by Crotch, is probably referable to this species. *E. fuscula* is certainly the largest species, amongst those which have black elytra, with which I am acquainted. The thorax is very strongly and closely punctured, and might almost be called rugose-punctate; the elytra are also very deeply and regularly punctate-striate, closely covered with long yellowish pubescence, and their interstices are slightly longitudinally convex; the antennæ and tibiæ are fulvous.

The species is of a much more broadly ovate shape than any other described here or by Von Harold; and as Crotch also remarks that *E. fuscula* is broader than *E. cucumeris*, it is very probable that the Mexican specimen is identical with Crotch's species.

13. **Epitrix convexa.**

Ovate, subcylindrical, very convex, black; antennæ and tibiæ fulvous; thorax closely and strongly punctured; elytra with a strong basal elevation, distinctly punctate-striate, the striæ visible to the apex; epistoma rugose, subcostate.
Length 1 line.

Hab. GUATEMALA, San Juan in Vera Paz (*Champion*).

Of this species only a single specimen was obtained by Mr. Champion. I am not able to unite it with any of the other described species. The principal points of distinction are:—The head, although impunctate, generally has a few deep punctures close to the inner margin of the eyes, and the epistoma is deeply longitudinally rugose or channelled; the antennæ are entirely fulvous, as well as the tibiæ. The shape of the insect is more robust, cylindrical, and convex than any of the preceding species; the elytra are without pubescence (perhaps owing to abrasion), and the base is much more strongly raised than is generally the case. *E. lucidula*, Har., has the straight thoracic groove in common with the present species, but in the latter, besides the general different shape, the elytral punctuation is distinct to the apex; in *E. lucidula* it is almost obliterated. *E. puberula*, Bohem., of which I have specimens named by Boheman for comparison, seems to be more closely allied to *E. convexa* than to any other species with which I am acquainted; but the former is smaller and of different shape, and the elytral basal elevation much less distinct; the rugose epistoma would furnish another good character of separation.

14. **Epitrix intermedia.** (Tab. XXI. fig. 3.)

Black; basal joints of the antennæ, base of the tibiæ, and tarsi fulvous; thorax strongly and closely punctured; elytra *without* basal elevation, deeply punctate-striate to the apex, the interstices convex and pubescent.
Length $1\frac{1}{4}$ line.

Hab. MEXICO, Orizaba, Guanajuato (*coll. Sallé*); GUATEMALA, Volcan de Agua (*Champion*).

In its larger size this species resembles *E. murina*, Harold, from which I am obliged

to separate it for the following reasons:—There is no trace of an elytral basal elevation in *E. intermedia*, the thorax is not finely but strongly punctured, and the elytral interstices are not flat but raised. Amongst the black species the present one is the largest, with the exception of *E. fuscula*, which is larger still; the thoracic groove is nearly straight and deep, and the space behind it is as strongly punctured as the rest of the thorax.

15. **Epitrix dilaticornis.** (Tab. XXI. fig. 4.)

Dark fulvous; antennæ with dilated intermediate joints, the latter black; thorax finely punctured; elytra finely punctate-striate, the base strongly raised, covered with yellow hairs.

Length 1 line.

Head impunctate; frontal tubercles in the shape of narrow, oblique ridges, bounded above by a narrow groove round the inner margin of the eyes; antennæ more than half the length of the body, the fourth to the seventh joint gradually but strongly dilated, covered with coarse and long pubescence, the four basal and the two terminal joints fulvous, the rest black; thorax transversely convex, the basilar groove straight and deep, the surface finely and not very closely punctured; elytra much wider at the base than the thorax, the basal portion strongly raised, moderately strongly punctate-striate, the interstices rather closely covered with long yellow pubescence.

Hab. GUATEMALA, Chiacam, Cubilguitz (*Champion*); PANAMA, Bugaba (*Champion*).

This species, distinguished by the dilated intermediate joints of the antennæ, is very closely allied to *E. apicicornis*, Baly, which it resembles in colour, and of which I have the type for comparison; the latter, however, has the head differently formed, as there is a rather broad space in front of the eyes (called by Baly the interocular space), which in the present species is wanting; the dilated antennæ, which is another character peculiar to *E. dilaticornis*, and the much more strongly raised base of the elytra will further distinguish this species from that of Mr. Baly; in the female the antennæ are much less dilated and almost normal, but the base of the elytra is strongly raised. *Chorodecta*, a genus described by Von Harold, has also dilated antennæ, and seems almost identical in every other respect with the species here described; but in Von Harold's genus the anterior coxal cavities are described as open and the prosternum as exceedingly narrow, characters which do not apply to *E. dilaticornis*.

16. **Epitrix fulvifrons.**

Ovate, convex, black; head obscure dark fulvous; antennæ, knees, and tibiæ fulvous; thorax strongly punctured; elytra deeply punctate-striate, the base strongly raised.

Length 1 line.

Head impunctate, inner margin of the eyes with a few deep punctures, frontal tubercles narrow and transverse, carina acutely raised; antennæ nearly as long as the body, the terminal joints distinctly thickened; thorax transverse, the sides not much deflexed anteriorly, sides nearly straight, basilar groove very shallow in the middle, more distinctly marked at the sides, surface rather closely and strongly punctured; elytra regularly punctate-striate to the apex, the base distinctly raised.

Hab. GUATEMALA, Aceytuno (*Champion*).

The fulvous head, the long antennæ, and the colour of the knees and tibiæ will

separate this species, which, as regards shape, is closely allied to *E. convexa*. There is only one specimen before me, and I cannot say whether the colour of the head is subject to variation.

17. **Epitrix subcostata.** (Tab. XXI. fig. 5.)

Fulvous, pubescent; antennæ and legs testaceous; thorax closely and very distinctly punctured, the basilar groove straight; elytra strongly punctate-striate to the apex, the interstices costate.
Length 1 line.

Hab. PANAMA, Taboga Island (*Champion*).

There are sufficient structural differences to be found in this insect to separate it from its allies; the thorax has the basilar groove very nearly straight, deep, and placed at some distance from the posterior margin (in most of the other species this groove is placed closer to the latter), the space between it and the margin is equally closely and distinctly punctured; below the base of the elytra and close to the suture a distinct depression is seen, without, however, making the basal portion appear raised; the interstices of the elytra, especially near the sides, are distinctly costate, and covered with yellowish pubescence. A single specimen only is before me.

18. **Epitrix pulchella.**

Testaceous; thorax scarcely visibly punctured; elytra distinctly punctate-striate, the punctures visible to the apex, surface closely pubescent.
Length $\frac{1}{2}$ line.

Hab. MEXICO, Teapa, Cordova (*Sallé*); PANAMA, David, and Caldera in Chiriqui (*Champion*).

This is a small species of a pale flavous or testaceous colour, without doubt closely allied to *E. flaveola*, Harold, which seems to be of the same colour and size. The differences which distinguish the two insects are as follows:—In *E. pulchella* there is a distinct transverse depression below the base of the elytra (a character absent in the allied species), and the punctuation is quite distinct to the apex; the thorax is transverse, the basilar groove deep and nearly straight, and the punctuation is extremely fine, even when seen with a strong lens. Von Harold describes *E. flaveola* as having the thorax impunctate, the pubescence very distinct, and the yellowish-white hairs arranged in rows. The suture is very narrowly piceous in all the specimens of *E. pulchella* before me. The Mexican specimens are slightly larger and more convex than those from the State of Panama; and the thorax is, in some examples, distinctly, though finely, punctured; in one specimen, however, the punctuation is nearly obsolete. I have thought it best, therefore, to unite these specimens, as I cannot find other characters of distinction.

19. **Epitrix haroldi.**

Ovate, dark fulvous; antennæ and tibiæ testaceous; thorax extremely finely and closely punctured; elytra without any basilar elevation, finely punctate-striate, the punctures scarcely visible at the apex.
Length $\frac{3}{4}$ line.

Hab. GUATEMALA, San Juan in Vera Paz, Capetillo (*Champion*).

There are amongst the fulvous-coloured species only three with which the present insect may be confounded on account of the almost obsolete punctuation near the apex of the elytra; these species are—*E. pygmæa*, Har., *E. tantula*, Har., and *E. pulla*, Har., all from Colombia; the first and third named of these have, according to the description, an *impunctate* thorax, while *E. tantula* is described as having the punctuation finer but *distinct* to the apex, and also sparingly pubescent elytra. With none of these descriptions *E. haroldi* agrees, as all the six specimens before me have a very closely and finely punctured thorax (when seen under a strong lens), and no trace of pubescence on the elytra; the thoracic groove is deep, nearly straight, and bounded laterally by a well-marked depression; the elytra are of a rather rounded, ovate shape, without any trace of a basal elevation, and their punctuation is fine and regular. *E. haroldi* seems most closely allied to *E. tantula*, but I am obliged to consider it as distinct according to the description of Von Harold. *E. villosa*, Har., also from Colombia, is another closely allied form, but the elytra have, according to the description, a distinctly raised basal portion.

20. **Epitrix castanea.**

Dark chestnut-brown; thorax piceous, strongly punctured; the five basal and the two terminal joints of the antennæ fulvous; elytra with the base distinctly raised, strongly punctate-striate to the apex.
Length 1 line.

Hab. GUATEMALA, Senahu (*Champion*).

One example. It will not be very difficult to recognize *E. castanea* amongst the allied fulvous-coloured species on account of the colour of the antennæ; the strongly punctured thorax, the groove of which is but obsoletely impressed in the middle (though well defined at the sides), the space behind this being also distinctly punctured; the elytra without pubescence, strongly punctured to the apex, and the basal portion highly raised; the posterior tibiæ are piceous, and the femora brown.

21. **Epitrix ubaquensis.**

Epitrix ubaquensis, Harold, Coleopt. Hefte, xiv. p. 41[1].

Hab. GUATEMALA, Volcan de Atitlan (*Champion*).—COLOMBIA[1].

A single specimen from the above locality agrees so well with the description of Von Harold, that I must refer it to that species, of which the principal distinguishing feature seems to be the deep and punctured thoracic groove; the rest of the surface is

finely, but closely and distinctly, punctured; the base of the elytra is raised, and the punctuation distinct to the apex; the general colour of the insect is fulvous; the antennæ and legs paler.

22. **Epitrix subglabrata.**

Ovate, convex, black, pubescent; antennæ, knees, and tibiæ fulvous; thorax scarcely visibly punctured; elytra strongly punctate-striate to the apex.
Length $\frac{3}{4}$ line.

Hab. PANAMA, Taboga Island (*Champion*).

The shape of this species resembles that of *E. convexa* and *E. fulvifrons*, from which I must separate it on account of its nearly impunctate and shining thorax, the punctuation being only just visible under a strong lens; the elytra are without basal elevation (a character that will further assist in separating the species), the punctuation is strong and distinct to the apex, and the interstices are furnished with regular rows of single yellowish hairs; the antennæ, tibiæ, and knees are fulvous, without any darker stains. The thorax in this species is very transverse, and as wide at the base as the elytra; its basilar groove is deep, straight, and placed close to the posterior margin. Two specimens are before me.

23. **Epitrix parvula.** (Tab. XXI. fig. 6.)

Crioceris parvula, Fabr. Syst. Eleuth. i. p. 468. 94[1]; Illig. Mag. vi. p. 111.
Crepidodera hirtipennis, Melsh. Proc. Acad. Phil. iii. p. 165[2] (1847).
Haltica hirtipennis, Suffrian, Wiegm. Arch. 1868, i. p. 209[3].
Epitrix hirtipennis, Crotch, Proc. Acad. Phil. 1873, p. 72[4].

Hab. NORTH AMERICA[1 2 3]. — GUATEMALA, Dueñas (*Champion*); PANAMA, Bugaba (*Champion*).—CUBA[4].

A few specimens of this small species were obtained by Mr. Champion. *E. parvula* may be at once known by its pale fulvous or testaceous colour, and the transverse brownish band on the elytra. The specimens sent agree in every particular with the description given by Melsheimer and other authors. The thoracic groove in this species is very feebly impressed, and placed close to the posterior margin; the surface of the thorax, however, is very distinctly and rather closely punctured, and generally of a darker fulvous colour; the elytra having a more testaceous tint.

TRICHALTICA.

Trichaltica, Harold, Coleopt. Hefte, xv. p. 2 (1876).

The few species belonging to this genus were overlooked by me at first; consequently, and on account of the open coxal cavities, the genus ought to have found its place in the first division of this subfamily. I place it here as the insects, although the anterior coxal cavities are not closed, have a distinct transverse thoracic groove.

Trichaltica was established by its author on some South-American species of Halticinæ of small, parallel, and subcylindrical shape, with a very strongly and generally distantly punctured thorax, and punctate-striate and pubescent elytra. The species seem to be subject to great variation, and none have hitherto been recorded from Central America. *Orthaltica*, Crotch, almost entirely resembles the present genus, but may be distinguished by the closed anterior coxal cavities.

1. **Trichaltica bogotana.** (Tab. XXI. fig. 7.)

Trichaltica bogotana, Harold, Coleopt. Hefte, xv. p. 4 (1876) [1].

Hab. PANAMA, Bugaba (*Champion*).—COLOMBIA [1].

Whether I am rightly referring the specimens obtained in the State of Panama to Von Harold's species I am not able to say with certainty, not having seen the type; the description as given by the author agrees, however, in the main points. But there are a few specimens from the same locality before me which differ only in size and coloration, and are therefore probably varieties; in these specimens the antennæ are longer and stouter, and not entirely red, but piceous, with the exception of the first two joints; perhaps they are the females of the species under consideration. The thorax in all the specimens has two small but distinct teeth at the sides before the middle (as Von Harold's description gives it). The Colombian *T. denticollis*, Har., has the same character, and may be but a variety of the present species.

2. **Trichaltica variabilis.** (Tab. XXI. fig. 9.)

Below black, above metallic dark blue; basal joints of the antennæ, and the lower part of the face, red; thorax coarsely and remotely punctured; elytra strongly punctate-striate, covered with thin whitish pubescence.
Var. *a*. Head and anterior part of the thorax piceous; legs more or less fulvous.
Var. *b*. Head and thorax black; anterior legs red.
Length $\frac{1}{2}$–1 line.

Hab. BRITISH HONDURAS, Belize (*Blancaneaux*); GUATEMALA, San Juan in Vera Paz, Cahabon, Dueñas, Calderas, El Tumbador, Tamahu (*Champion*); PANAMA, Volcan de Chiriqui (*Champion*).

I have separated this species, which seems to differ principally in its coloration from those described by Von Harold, and of which *T. nigricollis* seems to be more closely allied than the others, on account of a dozen specimens all showing the same and constant difference in the blue head and thorax; the latter has only one small tooth (not two) behind the anterior angles, and can (providing this character is a constant one) therefore not be mistaken for *T. denticollis* or *T. bogotana*. In all the specimens, with the exception of one from Cahabon, the lower part of the face and the labrum are fulvous, the entire upper part of the insect being metallic blue; the head is impunctate, the thorax transverse and coarsely and remotely punctured, and the elytra have a very slight basal depression; slight differences in the punctuation are, however, noticeable

in most of the specimens, which show the same sculpturing as those described by Von Harold; whether the varieties with a partially red or piceous thorax are referable to the present or represent other species, I am unable to say; at all events none of those before me agree quite with either of those described by the author of the genus.

Section II. *Thorax without transverse groove; tibiæ and claws simple.*

a. *Anterior coxal cavities open.*

This division comprises all those species of Halticinæ which combine with a non-impressed or grooved thorax, tibiæ which show no emargination at their apex, and simple or not swollen claw-joints. I follow the arrangement of Von Harold in his descriptions of South-American Halticinæ.

CRIMISSA.

Crimissa, Stål, Œfv. af Kong. Vet.-Akad. Förh. 1858, p. 250.

The only species belonging to this genus is one of the largest of the Halticinæ, and has hitherto not been recorded from Central America; it is a robust insect, and scarcely typical of the present family, inasmuch as its posterior femora are scarcely more incrassate than the others, and the general shape resembling rather that of a species of *Doryphora* than one of the Halticinæ, and there is no doubt that the insect represents one of those intermediate forms whose classification is subject to different opinions in the minds of naturalists.

1. **Crimissa cruralis.** (Tab. XXI. fig. 8.)

Crimissa cruralis, Stål, loc. cit. p. 250[1].
Strongylotarsa maculipes, Chevr. (in litt.)[2].

Hab. Panama, David (*Champion*).—Colombia[1]; Ecuador (*coll. Jacoby*); Guiana, Cayenne[2].

The single specimen obtained in the State of Panama scarcely differs from the Colombian specimens contained in my collection, except to a slight degree, no doubt attributable to local variation.

DIBOLIA.

Dibolia, Latreille, Cuvier, Règne Anim. 2nd edit. v. p. 155 (1829); Leconte & Horn, Class. Col. N. A. p. 354.

Dibolia is a genus comparatively easy of recognition on account of the long and generally deeply emarginate spur at the end of the hinder tibiæ, as well as by the anterior prolongation of the prosternum covering to some extent the lower parts of the mouth. Species of *Dibolia* are found in Europe, Australia, and in North and South

America—the only one known to inhabit North America, being either identical with, or so closely allied to, one from Mexico, that I have at present been unable to separate the latter from its more northern representative. In general shape *Dibolia* much resembles the genus *Psylliodes*.

1. **Dibolia borealis.** (Tab. XXI. fig. 10.)

Dibolia borealis, Chevr. Guér. Icon. Règne Anim. 1845, p. 307[1].
Dibolia ærea, Melsh. Proc. Acad. Phil. iii. 1846, p. 167[2]; Crotch, Proc. Acad. Phil. 1873, p. 67[3].
Dibolia ovata, Lec. Proc. Acad. Phil. 1859, p. 286[4].

Hab. North America[1 2 3 4].—Mexico, Las Vigas (*Höge*), Orizaba (*Sallé*), Ciudad in Durango, Ventanas (*Forrer*).

Between the specimens obtained by Mr. Forrer and those by Herr Höge, there is a slight but constant difference to be seen, which I attribute at present to local influence, although it is quite possible that the two forms are specifically distinct. All the specimens from Las Vigas differ in having the elytral punctured striæ much less distinct than is the case in the specimens from other localities. The legs and tibiæ are also nearly black, the latter being fulvous in the examples from Ventanas (which agrees with the description of Leconte and the other American authors); the elytral striæ in these specimens are very distinct, and the interstices are closely and finely punctured (these striæ are scarcely visible in some of the specimens from Las Vigas). I cannot find, however, any other difference of importance; the general colour of all the insects before me varies from metallic green to blue and dark coppery or obscure æneous; sometimes the first three or four joints of the antennæ are fulvous. Although I have never seen typical specimens from North America, I have not much doubt that I refer the species rightly to *D. borealis*, with the description of which the Mexican specimens agree entirely.

2. **Dibolia championi.**

Below piceous; head and thorax dark fulvous; elytra violaceous-blue, punctate-striate, the interstices impunctate.
Length 1 line.
Head with a few scarcely visible punctures; antennæ black, the second and third joints short and equal; thorax transverse, very finely and closely punctured, obscure fulvous like the head; elytra rather regularly but finely punctate-striate.

Hab. Guatemala, San Juan in Vera Paz (*Champion*).

This species is certainly very closely allied to the preceding, but differs in the colour of the antennæ, head, and thorax, and also in having the interstices of the elytra impunctate. It is quite possible that the fulvous colour of the thorax is but the result of immaturity; but as only a single specimen is before me, I cannot be sure about this.

LUPRÆA.

Body elongate, parallel; eyes extremely large (♂), entire; antennæ slender, longer than the body, filiform (♂), and shorter in the female; palpi thin and slender; thorax transverse, constricted at the sides near the base, surface without transverse depression, but with a broad fovea at the middle of the base; scutellum broad, trigonate; elytra closely semipunctate-striate, their epipleuræ narrow and continued to the apex; posterior femora but moderately thickened, their tibiæ simple and not emarginate near the apex; the metatarsus of the hinder legs as long as the three following joints united; claws appendiculate; posterior tibiæ with a distinct spine, anterior pair unarmed; prosternum invisible between the thighs; anterior coxal cavities open.

At first sight this curious genus has quite the appearance of a species of *Galeruca*, especially of that of a *Luperus*, but the very distinctly incrassate posterior femora leave no other choice but to place *Lupræa* in the present group, where it would perhaps be best placed in the 11th group of Chapuis, the Aphthoninæ, on account of the open anterior coxal cavities and other characters agreeing with this section. The eyes in the male insect occupy nearly the entire side of the head; the antennæ in the same sex are much longer than, but in the female about as long as, the body. The thorax has a curious triangular depression at the base, which is joined in some specimens by an anterior longitudinal groove.

1. **Lupræa longicornis.**

Below black, above dark metallic blue; antennæ longer than the body; head and thorax impunctate; elytra distinctly and closely semipunctate-striate.

Length 2 lines.

Head impunctate; frontal tubercles flattened and of subtrigonate shape; carina indistinct; second joint of the antennæ very short, the following joints elongate, slender, and of equal length, each joint furnished with rather long hairs; thorax nearly twice as broad as long, the sides rounded before the middle, narrowed near the apex, with a triangular more or less distinct broad depression at the middle of the base, the posterior margin in front of this depression slightly sinuate, surface impunctate; scutellum impunctate, broad, its apex more or less truncate; elytra elongate, without any basal depression, metallic blue, closely and distinctly punctured, the punctures arranged in closely approached rows and distinct to the apex, the interspaces slightly transversely rugose.

Hab. GUATEMALA (*coll. Jacoby*).

Of this species I possess four specimens (three males and one female) from the above locality. As above remarked, the eyes, as well as the antennæ, are much smaller in the female; I cannot detect any other differences. Amongst the very numerous genera of Halticinæ I scarcely know of a form so closely resembling in shape and structural characters a species of Galerucinæ as the present; the posterior femora are, however, distinctly incrassate. The antennæ extend either to the end of the body, or beyond it.

2. **Lupræa fulvicollis.** (Tab. XXI. fig. 11.)

Elongate, subcylindrical; black or piceous below; lower part of the face, and the thorax, fulvous; antennæ and legs black, the former subdilated at the intermediate joints; thorax impunctate; elytra obscure greenish-æneous, finely and closely rugose-punctate.

Length 2 lines.

Head impunctate, the vertex black, lower part fulvous; frontal tubercles distinctly raised, slightly transverse; carina robust and thickened; labrum and palpi black; antennæ nearly two thirds the length of the body,

the second joint very short, the third and the following joints triangularly widened and of nearly equal length; thorax transversely subquadrate, the lateral margin rounded before the middle, anterior and posterior margins nearly straight, all the angles moderately acute and distinct, surface entirely impunctate; elytra of an obscure dark greenish-æneous colour, their surface rugosely punctured throughout, their epipleuræ very narrow, but continued to the apex; posterior femora moderately but distinctly incrassate, their tibiæ with a small spine; metatarsus as long as the three following joints united; claws appendiculate; anterior coxal cavities open.

Hab. GUATEMALA, San Gerónimo, El Reposo (*Champion*); NICARAGUA, Chontales (*Janson*).

The elongate shape, the narrow epipleuræ of the elytra, and the general structural characters of this species induce me to include it in this genus. The antennæ differ, however, in their more dilated joints and in being much shorter, which may be but the characteristic of the female sex; the posterior femora as well as their metatarsus, however, agree with the preceding species entirely, from which the fulvous thorax will at once distinguish *L. fulvicollis*; in the specimen from Nicaragua the sides of the thorax are narrowly marked with piceous.

PTOCADICA.

Ptocadica, Von Harold, Coleopt. Hefte, xv. 1876, p. 25.

Von Harold has founded this genus on a species inhabiting Colombia and Peru. The principal characters are to be found in the rounded general shape of the insect, giving it the appearance of a species of *Sphæroderma*; there are, however, sufficient different structural characters present to distinguish *Ptocadica* from the last-named genus; the antennæ are of different structure, their joints being gradually elongated up to the fourth or fifth (the terminal joints being lengthened in *Sphæroderma*); the mesosternum instead of being represented by a narrow transverse ridge is here subquadrate, and the structure of the tibiæ and legs is again different from the allied genus. Although I have not seen a type specimen of *Ptocadica*, I must refer an insect obtained by Mr. Champion to Von Harold's genus, with which it seems to agree in every particular.

1. Ptocadica straminea.

Ptocadica straminea, Har. Coleopt. Hefte, xv. 1876, p. 26[1].

Hab. PANAMA, Volcan de Chiriqui (*Champion*).—COLOMBIA, Bogotá[1]; PERU[1].

Two specimens are before me which differ only from the author's description in having testaceous anterior femora and obscure fuscous tarsi; in other points they agree perfectly. The elytra in the Chiriqui specimens are scarcely visibly punctured.

APHTHONA.

Aphthona, Chevrolat, D'Orbigny, Dict. Univ. Hist. Nat. 1842, ii. p. 5; Leconte & Horn, Class. Col. N. A. p. 353.

No less than eighty-three species are referred to this genus in Gemminger and Von

Harold's catalogue; many of these are very closely allied and difficult of determination, the small size of the insects generally adding to the difficulty. Although it is generally easy to distinguish *Aphthona* from *Longitarsus* on account of the long first tarsal joint of the latter, it is much more difficult to separate certain species from the next genus—*Phyllotreta*. In general it may be said that *Aphthona* is of a more convex and square shape, that the elytra cover the pygidium, and that the frontal tubercles are distinct. Europe seems to have furnished most of the species described as yet, but the genus is represented in nearly all parts of the world. Central America does not seem to possess many species, and but two or three have up to the present been described from that country.

1. **Aphthona deyrollei.**

Aphthona deyrollei, Baly, Trans. Ent. Soc. 1877, iv. p. 296[1].

Hab. Mexico, Teapa[1] (*coll. Baly*).

The general colour of the upper surface of this species, the type of which I have before me, is pale fulvous, with a slight metallic greenish gloss, which it has in common with several other Central-American forms belonging to *Aphthona*. In the present species the antennæ, which are long and slender, have three, or sometimes four, of the intermediate joints piceous, the rest fulvous, by which, in connexion with the very finely punctate-striate elytra, the insect may be recognized; it has not been met with by Mr. Champion or Herr Höge, but other very closely allied species are before me.

2. **Aphthona diversa.** (Tab. XXI. fig. 20.)

Aphthona diversa, Baly, Trans. Ent. Soc. 1877, iv. p. 297[1].

Hab. Mexico, Teapa[1] (*coll. Baly*); Guatemala, near the city, San Gerónimo (*Champion*); Panama, Caldera in Chiriqui (*Champion*).

In this species the elytra are metallic blue, and the vertex of the head piceous, with a slight metallic gloss. Mr. Baly says, in his description, that the basal margin of the thorax is edged with black at the sides, but neither in the type, which is before me, nor in the other specimens contained in Mr. Baly's collection, can I discover any trace of a black margin. Some of the Guatemalan specimens obtained by Mr. Champion, and which I cannot separate from the type, have a slight metallic gloss on the thorax, and the elytra of a more obscure bluish colour; other slight differences in shape are also visible in these examples, which are a little more robust and convex than the type; but I think these differences are but attributable to variation of locality. The specimens obtained in the State of Panama are more robust, the antennæ longer, and the punctuation of the elytra more finely impressed, the colour of the latter being also

of a more greenish æneous tint; it is quite possible that these specimens represent a different species, but till we obtain more material I am not able to come to a definite conclusion on this point.

3. Aphthona pilatei.

Aphthona pilatei, Baly, Trans. Ent. Soc. 1877, p. 296[1].

Hab. MEXICO, Teapa[1] (*coll. Baly*).

Only a single specimen of this species is contained in the collection of Mr. Baly, and none have been obtained by Herr Höge or M. Sallé. The colour of the insect above is nearly black, with a very slight violaceous tint (in Mr. Baly's description the colour is given as "nigro-ænea"), and the legs and antennæ pale fulvous: on account of this coloration the insect is comparatively easy of recognition.

4. Aphthona obscuripennis. (Tab. XXI. fig. 19.)

Below black; head, antennæ, thorax, and legs fulvous; thorax extremely finely punctured; elytra obscure bluish-black, finely punctate-striate.

Length $\frac{3}{4}$ line.

Hab. GUATEMALA, Zapote, El Reposo (*Champion*).

This species is undoubtedly closely allied to *A. diversa*, Baly, but differs in the following particulars:—the frontal tubercles are more obsolete; the antennæ are entirely fulvous, with the exception of the last joint, which is infuscate; the vertex of the head is not æneous or blackish, as in *A. diversa*, but fulvous; the thorax shows some very minute punctures (when examined under a strong lens); and the elytra are not metallic blue or green, but nearly black, with a slight bluish tint; lastly, the entire shape of the insect is more robust and much more convex, giving a somewhat square form to the elytra, the punctuation of which extends nearly to the apex; the antennæ have their third and fourth joints of equal length; the first joint of the posterior tarsi is as long as the three following joints united.

The North-American *A. picta*, Say, and *A. texana*, Crotch, seem to be closely allied species, but the former is described as having the elytra "sparingly and obsoletely punctured" (*cf.* Crotch, Proc. Ac. Phil. 1873), and the latter as being "*not* convex and with *irregularly* punctured elytral striæ."

5. Aphthona semicærulea.

Below black; head, antennæ, thorax, and legs reddish-fulvous; elytra greenish-blue, regularly and distinctly punctate-striate.

Length 1 line.

Head impunctate, the frontal tubercles rather broad and not very strongly raised; carina short; apices of the mandibles and the palpi piceous; antennæ fulvous, the apical joints more or less fuscous, the second joint thickened and of nearly the same length as the two following joints united; thorax about one half broader than long, transversely subquadrate, sides slightly rounded, oblique in front of the anterior angles, surface

entirely impunctate; scutellum piceous; elytra wider at the base than the thorax, subcylindrical, nearly parallel, regularly and distinctly punctate-striate to the apex; first joint of the posterior tarsi as long as the two following joints united.

Hab. MEXICO, Ciudad in Durango (*Forrer*).

Of a more slender and elongate shape than *A. diversa* and *A. obscuripennis*, the elytra more strongly punctured and of a bluer tint.

6. **Aphthona championi.**

Below obscure fulvous; antennæ piceous; thorax and legs fulvous; elytra metallic green or blue, closely and finely punctate-striate.

Length 1 line.

Head impunctate, obscure fulvous, the vertex piceous or obscure æneous; frontal tubercles almost obsolete; carina rather short and broad; antennæ piceous or black, the three basal joints sometimes obscure dark fulvous, third joint scarcely longer than the second, the latter swollen; thorax transversely subquadrate, slightly narrowed at the base, the surface rather convex and entirely impunctate; scutellum black, triangular; elytra obsoletely and transversely depressed below the base, the latter appearing somewhat swollen, disc closely and finely punctate-striate, the punctures finer and less distinct at the apex; apices of the posterior femora piceous.

Hab. MEXICO, Cordova (*Sallé*); GUATEMALA, Chacoj, and Cahabon in Vera Paz (*Champion*).

Larger and more robust than *A. diversa*: the base of the elytra raised and the punctuation arranged in very close rows; the frontal tubercles in this species are less distinctly marked than is generally the case—they might almost be called absent; the punctuation of the elytra is only visible under a strong lens (a character which will help to distinguish this species from others with very fine punctuation), and their colour is blue or green. In the specimen from Mexico the sides of the breast, as well as the apices of the posterior femora and their tibiæ, are piceous, but I cannot find any other differences of importance. The general shape of the species is more elongate than is the case in many others of the genus, and at the same time rather larger and robust.

7. **Aphthona semipunctata.** (Tab. XXI. fig. 22.)

Below piceous; basal joints of the antennæ, head, thorax, and legs fulvous; elytra obscure greenish-æneous, extremely finely punctured.

Length $\frac{3}{4}$ line.

Head impunctate; the frontal tubercles scarcely visible; carina distinct and narrow; four or five lower joints of the antennæ pale fulvous, the rest obscure fuscous, second joint much thickened, as long as the third, the following joint distinctly longer; thorax rather transverse, one half broader than long, subquadrate, the sides slightly rounded, obliquely angulate in front of the anterior angles, surface impunctate, an obsolete depression at each side near the base; elytra convex, not widened behind, very obsoletely depressed below the base, of a pale greenish æneous colour, their surface minutely punctate-striate (only visible under a strong lens); posterior femora darker fulvous; first joint of the posterior tarsi as long as the two following joints united.

Hab. GUATEMALA, Aceytuno (*Champion*); PANAMA, Caldera in Chiriqui (*Champion*).

The specimens sent by Mr. Champion differ sufficiently from *A. diversa* and similarly coloured species to be looked upon as a distinct form; the frontal tubercles almost

obsolete, and the scarcely visible punctuation of the elytra, in connexion with their pale metallic greenish colour and the more transversely shaped thorax, justify the separation of *A. semipunctata* from its allies.

8. **Aphthona pallipes.** (Tab. XXI. fig. 18.)

Below piceous; basal joints of the antennæ and the legs pale testaceous; above pale fulvous, with a distinct metallic æneous gloss; elytra finely punctate-striate.

Length $\frac{3}{4}$ line.

Head impunctate; the frontal tubercles distinct; carina short, but rather strongly raised; labrum and the apices of the mandibles piceous; antennæ slender, two thirds the length of the body, testaceous, the four or five terminal joints fuscous, the third and fourth joints equal in length, the fifth distinctly longer; thorax about one half broader than long, entirely impunctate, the sides slightly rounded and obliquely cut in front of the anterior angles, forming an obsolete small tooth; elytra with a very obsolete depression below the base, extremely finely punctate-striate, the punctures visible nearly to the apex; legs entirely testaceous; first joint of the posterior tarsi as long as the two following joints united; claws simple.

Hab. GUATEMALA, near the city, Dueñas, Capetillo, Panajachel, Aceytuno, El Tumbador (*Champion*).

Closely allied to *A. deyrollei*, but differing in the colour of the antennæ [which is constant in the numerous specimens from the above localities], the paler general colour of the upper surface, and the elytral basilar depression, of which there is no trace in *A. deyrollei*.

9. **Aphthona brunnea.**

Below piceous; above dark brown; legs fulvous; thorax impunctate; elytra extremely finely punctate-striate, the apex not visibly punctured.

Length $\frac{1}{2}$–$\frac{3}{4}$ line.

Hab. GUATEMALA, near the city, Aceytuno (*Champion*).

Of this species, as well as of the next, only a single specimen is before me; the uniform brown colour of the upper surface, and the extremely finely punctate-striate elytra, will assist in distinguishing *A. brunnea* from its allies; the frontal tubercles are very indistinct; the antennæ have the second and third joints short and of equal length, the three basal joints are pale, the others obscure and dark fulvous; the elytra show no impression below the base, and the punctuation can only be seen under a very strong lens. The specimen from Aceytuno is larger, of a paler colour, and the lateral margin of the thorax has a piceous spot; other differences I cannot find, and believe, therefore, both insects to represent the same species.

10. **Aphthona pallidipennis.**

Below black; above testaceous; head and thorax fulvous, impunctate; elytra entirely impunctate, the suture narrowly obscurely piceous.

Length $\frac{1}{2}$ line.

Hab. GUATEMALA, near the city (*Champion*).

I do not think it probable that this species is a variety of the preceding; the thorax is more transverse, and shows traces of a transverse depression at each side; the elytra are without the slightest trace of punctures, even when seen under a high magnifying-power, and, lastly, their colour is a pale testaceous; in the absence of other specimens I must look upon this species as distinct.

11. **Aphthona maculipennis.**

Ovate, convex; light brown; base of the antennæ and the legs pale fulvous; head, thorax, and elytra entirely impunctate, the latter with an obscure transverse band before and a spot below the middle testaceous.
Length ½ line.

Hab. GUATEMALA, Tamahu in Vera Paz, San Gerónimo (*Champion*).

This small species will not be difficult to recognize, on account of its coloration and entirely impunctate upper surface; the frontal tubercles are here absent, and there is a kind of groove, more or less distinct, near the inner margin of the eyes; the antennæ are longer than half the length of the body, and have their third and fourth joints of equal length and little longer than the second, the four basal joints are pale fulvous, the rest black; the sides of the thorax (which is of the usual shape) are marked with an indistinct piceous spot; the anterior testaceous band of the elytra is slightly curved, extending upwards along the suture to the base, while the spot at the apex is more indistinct, and in one specimen scarcely visible; the posterior femora are rather darker than the others. Two specimens only were obtained.

12. **Aphthona variabilis.**

Elongate, subparallel, fulvous; vertex of the head and the elytra metallic greenish-æneous; head and thorax distinctly punctured; elytra closely and rather strongly punctate-striate.
Var. Head and thorax entirely obscure æneous.
Length 1–1¼ line.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

There is a great difference in the shape between the male and female sex of this species, the latter being less convex and much more elongate than the male. Other characters to separate *A. variabilis* from the allied similarly coloured species may be found in the more or less distinctly punctured head, the similarly punctured thorax, and the closely and strongly punctured elytra; the punctuation of the latter is, especially in the female, rather irregular, and the interspaces are slightly rugose near the base, where there is a very obsolete depression visible; the antennæ have the third joint scarcely longer than the second, and the terminal joints are often of an obscure fuscous colour; in the variety the metallic colour of the elytra has also extended to the head and thorax, which, however, show traces of the fulvous ground-colour shining through; the colour of the head and the distinct punctuation of the thorax is constant in all the specimens before me.

13. **Aphthona mexicana.** (Tab. XXI. fig. 21.)

Below black; antennæ and legs fulvous, apical joints of the former and the femora partly fuscous; above bluish-black; thorax impunctate; elytra regularly punctate-striate, the punctures distinct to the apex.
Length 1 line.

Hab. MEXICO, Saltillo in Coahuila (*Dr. Palmer*).

This species seems very closely allied in colour and also in sculpture to *A. ubaquensis*, Harold, from Colombia, from which I am obliged to separate it on account of its smaller size and the *regularly* punctate-striate elytra, on which the striæ, although finer, are visible to the apex; in all other respects the insect agrees perfectly with Von Harold's description: the frontal tubercles are distinct, narrow, and transverse, and the colour of the antennæ and the legs is identical; but *A. ubaquensis* is described as having somewhat irregularly punctured elytra and of a length of $2\frac{3}{4}$–3 millim. It may, however, be that *A. mexicana* is not specifically distinct, but only a local variety.

14. **Aphthona fulvipennis.** (Tab. XXI. fig. 24.)

Fulvous; terminal joints of the antennæ fuscous; thorax extremely finely punctured; elytra finely punctate-striate.
Length 1 line.
Head impunctate, the frontal tubercles very distinctly raised, transverse; carina short and distinct; labrum and palpi piceous; antennæ more than half the length of the body, third and fourth joints equal, not much longer than the second joint, which is much thickened, the six or seven terminal joints fuscous; thorax about one half broader than long, the sides perfectly straight, angulate in front of the anterior angles, surface scarcely visibly punctured (even when seen under a strong lens); elytra convex, without any basal depression, the disc finely and regularly punctate-striate, the punctures scarcely visible at the sides, but distinct to the apex; first joint of the posterior tarsi as long as the three following together.

Hab. GUATEMALA, Cerro Zunil (*Champion*).

A single specimen. The uniform fulvous colour (the tibiæ only being paler) and the straight sides of the thorax, seem good distinguishing characters of this species.

15. **Aphthona palpalis.**

Fulvous; palpi long and slender; thorax transverse, scarcely visibly punctured; elytra metallic green, strongly punctate-striate.
Length 1 line.
Head impunctate, fulvous, with a very slight metallic gloss; frontal tubercles narrow, placed obliquely transverse; carina short but distinctly raised; eyes very large; palpi thin, long, and with the terminal joint acutely pointed; antennæ fulvous, the terminal joints slightly darker, third and fourth joints equal, distinctly longer than the second; thorax about twice as broad as long, the sides rounded, slightly constricted near the base, the posterior angles acute but not produced, surface only visibly punctured when seen under a strong lens, like the head with a faint metallic gloss; scutellum fulvous; elytra nearly parallel, strongly and regularly punctate-striate, the punctures finer but distinct to the apex, the interstices below the base indistinctly wrinkled transversely here and there; underside and legs fulvous; metatarsus of the hinder tibiæ as long as the three following joints together.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

The larger eyes, slender palpi, and transverse frontal tubercles in connexion with the metallic green and strongly punctured elytra, will assist in distinguishing *A. palpalis*.

16. **Aphthona chiriquensis.** (Tab. XXI. fig. 25.)

Below dark piceous; head (the vertex excepted), thorax, and the anterior legs fulvous; elytra metallic greenish æneous, closely and irregularly punctate-striate.

Length 1 line.

Head impunctate, the vertex with a transverse anteriorly emarginate blackish band; eyes large, their inner margin bounded by a groove; frontal tubercles narrow, slightly transverse and distinctly limited behind by an impression; carina short and broad; terminal joint of the palpi piceous; antennæ rather short and robust, the six lower joints fulvous, the others black, second and the three following joints short and of nearly equal length; thorax rather narrow and transverse, the sides slightly, the posterior margin more distinctly, rounded near the angles, surface impunctate, fulvous; scutellum black; elytra slightly widened towards the middle and without any basal depression, dark metallic greenish-æneous, very finely and closely punctured, the punctures arranged in indistinct and rather irregular rows; posterior legs and tarsi, the apices of the intermediate tibiæ, and the underside, piceous.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

The colour of the head, the short antennæ, and the closely and finely punctured elytra will prevent this species being mistaken for any of the other allied forms described here; the short basal joints of the antennæ being peculiar also to the present insect, of which only a single specimen is before me.

17. **Aphthona robusta.**

Subovate, convex, robust, fulvous; thorax transverse, impunctate; elytra metallic blue, regularly punctate-striate.

Length $1\frac{1}{4}$ line.

Head impunctate; frontal tubercles strongly raised and limited behind by a deep depression; carina short, acutely raised; antennæ rather robust and of half the length of the body in the male, shorter and thinner in the female, the three lower joints fulvous (sometimes piceous), the others black, the second joint swollen and one half shorter than the third, this and the following joints of nearly equal length; thorax rather narrowly transverse, more than twice as broad as long, the sides very little rounded, the angles not produced, the anterior and posterior margins parallel, the surface rather convex, entirely impunctate, fulvous; scutellum of the same colour as the thorax, triangular; elytra convex, widened behind, metallic blue, with a slight and rather obsolete depression below the base, rather strongly and not very closely punctate-striate; legs fulvous, the posterior femora generally with a piceous or blackish-æneous spot at their apices, and their metatarsus nearly as long as the three following joints together.

Hab. PANAMA, David, Bugaba (*Champion*).

The thorax in this species is much more transverse than usual; the general shape of the insect is also more robust and convex, the elytra being at the same time widened behind, which is especially the case in the female. I cannot find, however, sufficient ground for separating this species from the genus *Aphthona*, with which it agrees in all essential points.

18. **Aphthona aterrima.** (Tab. XXI. fig. 23.)

Black; base of the antennæ and of the tibiæ obscure fulvous; thorax impunctate; elytra finely punctate-striate.

Length 1 line.

Head rather flat, impunctate; frontal tubercles absent; carina very short; four basal joints of the antennæ testaceous, the rest black, the third and fourth joints equal in length; thorax transverse, convex, subcylindrical, the sides greatly deflexed, surface entirely impunctate, black, shining; scutellum broadly ovate; elytra convex, slightly depressed below the base at the sides and across the disc, the latter very finely punctate-striate, the punctures distinct nearly to the apex; tarsi and the base of the tibiæ fulvous; the first joint of the posterior tarsi as long as the two following joints united.

Hab. GUATEMALA, Capetillo (*Champion*).

There is only a single specimen before me of this very distinct species, which may be known at once by its black colour, the transverse and impunctate thorax, and the pale base of the tibiæ and antennæ; all other characters are those of *Aphthona*.

19. Aphthona brevicornis.

Ovate, convex, black below; four lower and the apical joint of the antennæ fulvous; above dark blue, shining; thorax impunctate; elytra regularly punctate-striate.

Length 1 line.

Head impunctate, with a deep transverse groove between the eyes; frontal tubercles absent; clypeus subquadrate, impunctate; labrum black; apices of the mandibles fulvous; antennæ comparatively short, the second joint much stouter and rather longer than the third joint; thorax nearly three times as broad as long, the posterior margin moderately produced and rounded at the middle, the anterior angles obliquely truncate, the surface entirely impunctate; elytra convex, not dilated behind, the shoulders prominent and bounded below by a semicircular depression, the disc distinctly and regularly punctate-striate, each elytron with ten rows of punctures, which become nearly obsolete at the apex; first joint of the posterior tarsi slightly longer than the following.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

The shape of this species, of which only a single specimen was obtained, is quite distinct from any of its allies, being much more convex and robust; this character, in connexion with the short antennæ, will aid in distinguishing *A. brevicornis*, which I cannot separate by any other mark of distinction from the present genus.

PHYLLOTRETA.

Phyllotreta, Foudras, Muls. Col. France, 1860, p. 230; Leconte & Horn, Class. Col. N. A. p. 353.

This genus, as already remarked, is closely allied to the genus *Aphthona*, from which, however, it may be known by the more depressed and ovate form, the pygidium generally not covered by the elytra, and the frontal tubercles for the most part very small or absent. *Phyllotreta* contains, like *Aphthona*, mostly species of small size, although some have been described which are much larger and possibly belong to other genera. Europe furnishes also most of the species, several have been described from North America, others from Africa and Australia, but, as far as I know, none from the country under consideration. The genus contains many closely allied species, some of which, under the name of Turnip-fly, have obtained great notoriety on account of their destructive habits.

1. **Phyllotreta guatemalensis.** (Tab. XXI. fig. 14.)

Blackish-æneous below; greenish-æneous above; second joint of the antennæ obscure fulvous; thorax and elytra very finely and closely punctured.

Var. Above bluish-green.

Length 1 line.

Head scarcely visibly punctured, the space between the eyes somewhat thickened; carina short but distinct; antennæ more than half the length of the body, black, the second joint more or less distinctly fulvous, the third and fourth joints equal, the terminal joints gradually but distinctly thickened; thorax transverse, the sides rounded, anterior and posterior margins straight, the surface very finely and closely punctured; scutellum small; elytra subdepressed, punctured like the thorax, the interstices slightly transversely rugose; first joint of the posterior tarsi twice as long as the following one.

Hab. GUATEMALA, Dueñas, Zapote (*Champion*).

Amongst the North-American species described by Crotch, *P. albionica* seems to be the most closely allied to this; there are, however, two specimens of the latter insect, from California, contained in the collection of Mr. Baly, which differ in the much more strongly and more distantly punctured thorax. The species described here agrees much better with a specimen, also contained in Mr. Baly's collection, labelled "*Phyllotreta texana*, type, Crotch, formerly contained in Dr. Horn's collection;" but this is evidently a mistake, as Crotch has only described an *Aphthona texana*, a species differing totally from the above-mentioned specimen, which certainly is a true *Phyllotreta* and possibly identical with *P. guaternalensis*.

How the above mistake arose it is difficult to say, as the description given by Crotch cannot possibly apply to the specimen in the Baly collection, which differs totally in coloration and in the long joint of the metatarsus of the posterior legs; there is therefore no other choice left but to describe the species as new. *P. lewisi*, Crotch, and *P. æmula*, Harold, are evidently closely allied species, which seem to differ in the colour of the antennæ and other particulars.

2. **Phyllotreta transversicollis.**

Below black; basal joints of the antennæ, and the apices of the anterior femora and their tibiæ, fulvous; thorax transverse, impunctate as well as the elytra; above bluish-black.

Length 1 line.

Head impunctate; frontal tubercles narrow, but slightly raised and contiguous, bounded behind by an indistinct groove; carina very short and narrow; labrum and palpi piceous; antennæ with the first six joints fulvous, the rest black, second joint swollen and not shorter than the third; thorax narrowly transverse, more than twice as broad as long, the sides rather rounded, the angles somewhat obtuse, but slightly thickened; scutellum black; elytra a little widened behind, nearly impunctate [or only extremely finely punctured when seen under a very strong lens]; legs and underside black; the apex of the anterior femora, and the base of the anterior tibiæ and their tarsi, more or less fulvous; metatarsus of the posterior tibiæ scarcely as long as the two following joints united.

Hab. GUATEMALA, San Gerónimo, Tamahu (*Champion*).

Principally distinguished from *P. guatemalensis* by the transversely-shaped thorax and from several closely-allied North-American and European forms by the almost entirely impunctate upper surface, in connexion with the colour of the basal joints of the antennæ.

3. **Phyllotreta lewisi?**

Orchestris lewisii, Crotch, Proc. Acad. Phil. 1873, p. 66 [1].

Hab. North America [1].—Mexico, Yucatan (*coll. Baly*); Guatemala (*Pilate, coll. Baly*).

There are two specimens of a *Phyllotreta* contained in Mr. Baly's collection, in which the entire upper surface is dark blue and finely punctured; the first four joints of the antennæ, and the base of the tibiæ as well as the tarsi, fulvous—these characters agreeing entirely with the short and insufficient description given by Crotch of his *P. lewisii*, to which I refer these insects at present. The size is one line; the head very finely punctured; the sides of the thorax are but very slightly rounded, and the surface shows also traces of a fine transverse groove near the base; the general shape and other characters are those of a species of *Phyllotreta*.

4. **Phyllotreta abdominalis.** (Tab. XXI. fig. 12.)

Black; basal joints of the antennæ, legs, and abdomen flavous; head, thorax, and scutellum black; elytra metallic blue.

Length 1 line.

Head impunctate; eyes large; frontal tubercles broad and rather distinct; antennæ more than half the length of the body, the second joint thickened and scarcely shorter than the two following joints, the four or five lower joints flavous, the rest piceous; thorax nearly twice as broad as long, black, impunctate, the sides rounded and narrowly margined, the posterior margin with a slight depression at the middle in front of the scutellum, a very slight transverse depression may also be seen at the sides; elytra wider than the thorax at the base, gradually and slightly dilated below the middle, without any basal depression, the surface almost impunctate, and with only a few rows of extremely finely impressed punctures near the suture (only visible under a strong lens), metallic blue; legs and abdomen flavous; posterior femora with a black or piceous spot at the apex; first joint of the posterior tarsi as long as the three following joints united.

Hab. Panama, Volcan de Chiriqui (*Champion*).

Principally distinguished from its allies by the flavous legs and abdomen and the black thorax.

5. **Phyllotreta nigricollis.** (Tab. XXI. fig. 15.)

Below piceous; head and thorax black, impunctate; elytra bluish-black, very finely punctate-striate.

Length $1\frac{1}{4}$ line.

Head impunctate; frontal tubercles very indistinct; carina rather distinctly raised; labrum piceous; antennæ more than half the length of the body, the second and third joints very short and of equal length, the following four joints somewhat triangularly widened, the terminal one slender and elongate, the underside of the first and the two following joints is obscure fulvous, the rest black; thorax less than twice as broad as long, black, the sides scarcely rounded and distinctly narrowed from the base to the apex, the angles not prominent, the anterior ones furnished with a single hair, the surface impunctate or (seen under a very strong lens) exceedingly finely punctured; scutellum broadly trigonate; elytra slightly narrowed towards the apex, the portion below the base and near the suture slightly depressed longitudinally, each elytron with about ten rows of finely impressed punctures, the punctures placed in single and regular lines and visible, but less distinctly, to the apex; the colour is nearly black, with a slight bluish tint;

posterior femora extending to the apex of the elytra, their tibiæ slightly longitudinally sulcate, with the outer edge finely serrate; metatarsus as long as the three following joints united; anterior coxal cavities open.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

The antennæ in *P. nigricollis* show a marked difference in the comparative length of their joints from any other species of this genus known to me, the second and third joints being very short and equal in length, while the following joints are widened and at the same time more than three times as long. The species has, however, the true appearance and all other structural characters of a *Phyllotreta*, although somewhat more robust in shape than is usually the case. Herr von Harold has already remarked that if all slightly structural deviating characters were to be looked upon as generic, one might make a new genus on many or most species, with which remark I entirely agree; the difficulty is, however, where to draw the line, and to which character to ascribe *generic* importance; many genera, for example, have been constructed solely on a slight difference in the comparative length of the antennæ, the importance of which, without the presence of other structural differences, I fail to see.

6. **Phyllotreta submetallica.** (Tab. XXI. fig. 16.)

Below piceous; clypeus, anterior legs, and part of the breast fulvous; head black; thorax obscure dark fulvous; elytra metallic green, depressed below the base, closely punctate-striate.

Length $1\frac{1}{4}$ line.

Head impunctate, with a small, but deep impression or fovea in front of the inner margin of the eyes; frontal tubercles absent; carina short, but distinct; clypeus fulvous; labrum piceous; antennæ slender, the second joint short and round and thickened, the third more slender and a little longer, the following joints nearly equal in length, black, the lower joints obscure fulvous below; thorax transverse, nearly twice as broad as long, sides very slightly rounded, the surface entirely impunctate, dark fulvous; scutellum black; elytra slightly widened behind, distinctly depressed near the suture below the base, the shoulders rather prominent and smooth, the surface closely and distinctly punctured, the punctures arranged in closely approached rows which get more indistinct near the apex; apical portion of the posterior femora black, the rest, together with the anterior femora, the base of their tibiæ, and the upper portions of the breast, fulvous; first joint of the posterior tarsi nearly as long as the three following joints united; pygidium slightly protruding beyond the elytra.

Hab. GUATEMALA, Cubilguitz in Vera Paz (*Champion*).

Whether this species is subject to variation I am unable to say, as I have only a single specimen for comparison; that the insect ought to be placed in the present genus is warranted by the absence of the frontal tubercles, the slightly uncovered pygidium, and the elongate metatarsus of the posterior legs.

7. **Phyllotreta mexicana.** (Tab. XXI. fig. 13.)

Below black; antennæ (the last four joints excepted), and the four anterior legs, testaceous; elytra metallic blue, finely and closely punctured; posterior femora piceous.

Length 1 line.

Head rather flattened, distinctly punctured round the inner margin of the eyes; frontal tubercles and the carina very indistinct, the former slightly raised; lower edge of the clypeus and the labrum obscure

fulvous; antennæ rather more than half the length of the body, gradually thickened, testaceous, the four terminal joints darkened, the second joint thickened and scarcely shorter than the third, the latter distinctly shorter than the following joint; thorax transverse, fully twice as broad as long, the sides rounded, the anterior and posterior margins straight, the latter with a slight depression in front of the scutellum, the surface nearly black, with a few scarcely visible punctures; scutellum black, rather broad; elytra rather depressed, slightly, but distinctly, widened posteriorly, with an obsolete depression below the base, their surface closely and finely punctured, the punctures arranged somewhat in close lines; posterior femora piceous; anterior legs entirely testaceous; pygidium not covered by the elytra.

Hab. Mexico, Jalapa (*Höge*).

The thorax is in this species much more transverse than in any other of the genus known to me; this character, and the colour of the antennæ and legs, will help to distinguish *P. mexicana* from its allies.

8. **Phyllotreta crotchi.** (Tab. XXI. fig. 17.)

Greenish-black; head and thorax closely punctured; elytra distinctly punctured anteriorly, the apex scarcely visibly punctured, testaceous, the lateral and sutural margins (the former widened at the middle, the latter narrowed at the base and apex), and a small spot at the shoulder, greenish-black.
Length 1 line.

Hab. Mexico, Ventanas 2000 feet (*Forrer*).

A good many nearly similarly coloured species are known from Europe and North America, from all of which I must separate the one under consideration on account of the very broad testaceous band (which I have given in the description as the ground-colour) of the elytra. The head is very finely and closely punctured, and has a very short impressed line between the eyes; the frontal tubercles are, as usual, obsolete, but the carina is distinctly raised; the antennæ have the third and fourth joints of equal length, and are entirely black in colour, the second joint only having a slight dark fulvous tint (in all the other allied species known to me the basal joints are more or less testaceous); the thorax is of a transverse shape, and closely and more strongly punctured than the head; the punctures of the elytra are placed in very closely approached longitudinal rows; the markings are almost identical in design with the European *P. sinuata*, Redt., except that the testaceous band is much broader.

P. ramosa, Crotch, from California, differs from the present species, according to the description, by the pale basal joints of the antennæ, and by the differently shaped elytral vitta. Two specimens were obtained by Mr. Forrer.

LONGITARSUS.

Longitarsus, Latreille, Cuvier, Règne Anim. 2nd edit. 1829, p. 155; Leconte & Horn, Class. Coll. N. A. p. 353.
Teinodactyla, Chevrolat, Dej. Cat. 3rd ed. p. 416.
Thyamis, Stephens, Illust. Brit. Ent. iv. p. 424.

Longitarsus, as its name implies, is principally distinguished from *Aphthona* and *Phyllotreta* by the elongate first joint of the posterior tarsi. The species are very

numerous, and principally found in Europe, but nearly all other parts of the world have contributed to their numbers; the tropics have furnished but few as yet, and even Central America seems to possess but a small number.

1. Longitarsus subcinctus.

Longitarsus subcinctus, Harold, Coleopt. Hefte, xv. 1876, p. 30[1].

Hab. Mexico, Teapa, Cordova (*Sallé*); Guatemala, Cerro Zunil, Teleman, Senahu (*Champion*); Panama, Volcan de Chiriqui, Bugaba (*Champion*).—Colombia[1].

I have not much doubt that the rather numerous specimens from the above localities should be referred to Von Harold's species, since they entirely agree with the description, and also with a specimen from Colombia contained in Mr. Baly's collection. In most of the specimens a transverse piceous band (as the description gives it) is visible at the sides of the elytra, although rather *before* than *at* the middle; the sides of the thorax are also similarly coloured in many specimens; slight variations in size and other respects are also present amongst the insects from different localities, but not of sufficient importance for the establishment of another species. *L. subcinctus* is more or less chestnut-brown in colour, and with long and slender antennæ, the fifth to the eighth joints of which are generally piceous or black; the thorax is impunctate, and the elytra are very finely punctured.

2. Longitarsus chontalensis.

Fulvous; four basal and the two apical joints of the antennæ flavo-testaceous; thorax extremely minutely, elytra more distinctly, punctured.

Length ½ line.

Head impunctate, with a fine oblique groove near the inner margin of the eyes; antennæ two thirds the length of the body, the second, third, and fourth joints short and equal, the basal joint stained with piceous above.

Hab. Nicaragua, Chontales (*Janson*).

The single specimen before me greatly resembles at first sight *L. subcinctus*, with which it agrees in the colour of the upper surface and in that of the antennæ, but the smaller size by one half of *L. chontalensis*, and the more distinctly and evenly punctured elytra will help to distinguish it; the comparative length of the second and the two following joints of the antennæ [these joints being much shorter than in the allied pecies] is another distinguishing character of the present insect.

3. Longitarsus angusticollis.

Ovate, testaceous or obscure fulvo-piceous; wingless; antennæ as long as the body; thorax punctured posteriorly; elytra without prominent shoulders, closely, distinctly, and somewhat rugosely punctate.

Length ½ line.

Hab. Panama, Volcan de Chiriqui (*Champion*).

In shape this apterous species agrees entirely with *L. oopterus*, Har., from Colombia, and with *L. concinnus*, Baly; from the former the punctuation of the thorax will at once distinguish it; other differences are also to be found in the long antennæ [which are only of half the length of the body in Von Harold's species]. In *L. angusticollis* the antennæ are as long as the body, the second joint is but little shorter than the third, the following joint the longest; the thorax is strongly narrowed near the base, its surface covered at its posterior portion with distinct and oblong punctures, which sometimes extend to the anterior portion as well, the spaces between the punctures being slightly and more or less distinctly wrinkled; the elytra are convex, much narrowed and pointed at the apex, and without a humeral callus, their punctuation is strong and close (when seen under a high power), and the interstices are somewhat rugose; the first joint of the posterior tarsi is of half the length of the tibiæ. With *L. concinnus* the present species cannot be confounded, on account of the uniform colour of the antennæ and the posteriorly narrowed thorax. Ten specimens were obtained.

4. **Longitarsus chiriquensis.**

Broad, ovate, dark fulvous, impunctate; wingless; third joint of the antennæ longer than the second.
Length ½ line.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

Of much more broadly ovate shape than *L. angusticollis*; shorter, and the upper parts without punctuation; the antennæ two thirds the length of the body, the third joint being distinctly longer than the second (by which character the species may be separated from *L. oopterus*, Har.), the terminal joints rather robust and of darker colour. The thorax in *L. chiriquensis* is transverse [or at least not longer than broad], and the elytra are without punctuation. Two specimens are before me.

5. **Longitarsus intermedius.**

Broad, ovate, fulvous; the second and third joints of the antennæ equal, short, the four following ones black, the terminal joints flavous; thorax scarcely broader than long, impunctate; elytra impunctate, widened at the middle, without humeral callus; body wingless.
Length ½ line.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

In shape *L. intermedius* almost exactly resembles *L. chiriquensis*, from which it is principally distinguished by the structure and colour of the antennæ, in which the third joint is as short as the second. Whether the species is subject to variation I am unable to say, as there is only a single specimen before me; it is smaller than *L. oopterus*, and from that species sufficiently well distinguished by the impunctate elytra and colour of the antennæ.

6. Longitarsus nigricornis.

Obscure dark fulvous; antennæ black, their second and third joints short; thorax and elytra distinctly punctured, the former transverse, the latter narrowly ovate and without humeral callus.
Length ½ line.

Hab. NICARAGUA, Chontales (*Janson*).

The single specimen obtained at Chontales is of nearly similar shape to *L. concinnus* and *L. angusticollis*, but differs from both in the black colour of the antennæ; from the former also by the want of frontal tubercles, and by the absence of the impressed short groove at the sides of the latter; from *L. angusticollis* by the totally different shape of the thorax, which is not narrowed posteriorly; its punctuation and that of the elytra is fine and visible only under a strong lens.

7. Longitarsus colombicus.

Longitarsus columbicus, Harold, Coleopt. Hefte, xv. 1876, p. 31[1].

Hab. GUATEMALA, near the city, Aceytuno (*Champion*).—COLOMBIA, Bogota[1].

I cannot but refer the four specimens before me to the present species, or at the utmost to a slight variety of the same; the only difference I can find, according to the description given by Von Harold, is in the sculpture of the thorax, which, in the Guatemalan specimens, is finely, but distinctly, punctured, while Von Harold says that the thorax is without distinct punctuation, but finely wrinkled longitudinally: this difference would perhaps entitle us to look upon the Central-American specimens as specifically distinct, especially as many species of the present genus can only be distinguished by slight differences in structure or sculpture; but I have one specimen from the same locality in which the thorax shows a kind of intermediate degree between punctures and wrinkles, and, moreover, as every other structural character (as the length of the antennæ and the comparative length of the joints, as well as the punctuation of the elytra) agrees entirely with the author's description, I cannot but believe these insects to be identical with *L. colombicus*.

8. Longitarsus bogotanus.

Longitarsus bogotanus, Harold, Coleopt. Hefte, xv. 1876, p. 32[1].

Hab. GUATEMALA, Aceytuno (*Champion*).—COLOMBIA[1].

I must again refer a single specimen obtained by Mr. Champion to another of Von Harold's species; the antennæ are shorter and much more robust than in the preceding species, and the fifth to the terminal joints are stained with piceous; the thorax is extremely finely punctured at the posterior portion only, while the elytra are finely and irregularly punctate; the metatarsus of the hind legs is longer than half the length

of the tibia. All this agrees perfectly with the description given by the author, but without comparison with the type all doubt as to the identity of certain species is not excluded.

9. Longitarsus buckleyi.

Longitarsus buckleyi, Baly, Trans. Ent. Soc. 1877, iv. p. 291[1].

Hab. GUATEMALA, San Gerónimo (*Champion*).—ECUADOR[1].

The four specimens from Guatemala before me, although of smaller size than the type which I have for comparison, do not seem to differ sufficiently to be considered specifically distinct. The species is of a uniform shining black colour, and with the anterior legs and the posterior tibiæ obscure fulvous; the description of Mr. Baly gives the thorax as finely rugose when seen under a strong lens (in my opinion this is erroneous, as I can only discover exceedingly minute punctures, so that the thorax may almost be called impunctate); the elytra have also very minute rows of punctures, but more distinct than those of the thorax; the second and third joints of the antennæ are of nearly equal length.

10. Longitarsus concinnus.

Longitarsus concinnus, Baly, Trans. Ent. Soc. Lond. 1877, p. 290[1].

Hab. MEXICO[1] (*Pilate*).

The type, contained in Mr. Baly's collection, bears a label on which the locality "Mexico" is marked with a ?, and it is therefore possible that the species was not originally obtained from that country. *L. concinnus* may be known from the many similarly-coloured species by the distinct punctuation of the thorax and elytra, and by the black colour of the sixth to the ninth joints of the antennæ. I have only seen a single specimen of this insect.

11. Longitarsus apicicornis.

Black; the three basal and the two apical joints of the antennæ fulvous; thorax impunctate; elytra extremely finely punctured.

Length 1 line.

Head with a short impressed line near the inner margin of the eyes; frontal tubercles broad, flattened, and scarcely raised; carina very narrow and short; antennæ as long as the body, the second and third joints of nearly equal length, the first joint elongate, curved, thickened at the apex, and black above, the three following as well as the two terminal joints fulvous, the intermediate ones black; thorax subquadrate, only about one half broader than long, its surface entirely impunctate; elytra subcylindrical, convex, without basal impression, the very minute punctuation (only visible under a very strong lens) arranged in lines; legs entirely black; first joint of the posterior tarsi less than half the length of the tibia.

Hab. GUATEMALA, Senahu in Vera Paz (*Champion*).

Two specimens were obtained. The colour of the antennæ and the entirely black upper and under surface distinguish this species.

PALÆOTHONA.

Body oblong; eyes entire; palpi filiform; antennæ elongate, slender, the third joint distinctly longer than the second; thorax transverse, the sides rounded, the posterior margin often with a small depression at the middle; scutellum large, triangular; elytra widened behind, depressed below the base, finely punctured, the punctures often arranged in close rows; legs rather long and slender; posterior tibiæ simple, armed at the apex with a small spine; first joint of the posterior tarsi longer than the two following joints united; claws appendiculate; anterior coxal cavities open.

The genus here proposed, although not possessing any very striking peculiarities as regards structure, seems still sufficiently distinct to justify its separation from *Aphthona* and *Phyllotreta*. The species included in *Palæothona* have a rather depressed, elongate, and posteriorly widened appearance; the antennæ are much longer and more elongate than in the above-named allied genera, their third joint especially being in most instances nearly three times the length of the second; the thorax is more transverse, the posterior margin is sinuate and has a kind of fovea at its middle, more or less distinct; the elytra also have the base somewhat raised, this elevation being bounded behind by a depression, and the scutellum is large and broad. These differences may possibly prove to be of insufficient importance to justify a separation of *Palæothona* from *Aphthona*, if intermediate forms should be discovered; but at present I think it is advisable to retain *Palæothona* for the sake of an easier determination of the numerous species contained in the preceding genera as far as it relates to Central-American forms.

1. **Palæothona rugifrons.** (Tab. XXII. fig. 6.)

Below black; head, basal joints of the antennæ, thorax, and the anterior femora fulvous; head rugosely punctate; thorax impunctate; elytra dark blue, scarcely visibly punctured.

Length $1\frac{3}{4}$ line.

Head not longer than broad, the vertex rugosely punctured near the eyes; frontal tubercles short but distinct; carina flattened and joined to the clypeus; apical joints of the palpi piceous; antennæ slender, black, the first three joints fulvous, the others rather strongly pubescent; thorax more than twice as broad as long, the sides strongly rounded before the middle; the anterior angles broadly oblique and rather strongly constricted behind; posterior margin depressed in front of the scutellum, surface entirely impunctate, fulvous; scutellum black; elytra widened behind, the basal portion strongly raised, surface covered with minute punctures (when seen under a very strong lens); underside and legs black, the latter covered with yellowish pubescence, the anterior femora and sometimes the intermediate below, fulvous.

Hab. Mexico, Jalapa (*Höge*).

2. **Palæothona guatemalensis.**

Below piceous; head, thorax, legs, and antennæ fulvous; apices of the posterior femora piceous; head and thorax impunctate; elytra metallic blue, finely and closely semipunctate-striate.

Var. Apical joints of the antennæ and the posterior legs black.

Length $1\frac{1}{2}$–2 lines.

Head impunctate, with a single fovea near the inner margin of the eyes; frontal tubercles scarcely raised, but deeply divided in front; carina short and distinctly raised; antennæ two thirds the length of the body, third joint more than twice as long as the second, fourth longer than the third; thorax not more than twice as broad as long, the sides strongly rounded at the middle, anterior angles blunt and scarcely oblique, the surface more convex than in *P. rugifrons*, impunctate, with the exception of a few punctures

near the posterior margin, the latter slightly depressed in front of the black impunctate scutellum; elytra wider than the thorax at the base, slightly but distinctly dilated posteriorly, the basal portion raised and bounded behind by a depression, surface very closely and rather distinctly punctate-striate, the punctuation more strongly impressed on the anterior than on the posterior portion.

Hab. GUATEMALA, Calderas 6000 feet, San Gerónimo, Zapote (*Champion*).

Easily separated from the preceding species by the impunctate head and distinct carina.

3. **Palæothona longicornis.** (Tab. XXII. fig. 7.)

Below black; head, thorax, legs, and basal joints of the antennæ pale fulvous; elytra closely and finely punctured, metallic greenish-æneous.

Length $1\frac{1}{4}$ line.

Head irregularly punctured near the inner margin of the eyes, the interstices somewhat rugose; frontal tubercles very short and indistinct; carina entirely absent; antennæ extending nearly to the end of the elytra, the first, third, and following joints very elongate and slender, the three or four lower joints pale fulvous, the rest piceous or black; thorax transverse, of equal width, the anterior angles not produced, the sides rounded at the middle, posterior margin sinuate and with an obscure depression in front of the scutellum, surface entirely impunctate; scutellum black; elytra with the base moderately but distinctly raised and the shoulders prominent, of a metallic brassy-greenish colour, closely and distinctly but finely punctured; anterior part of the breast and the legs entirely fulvous.

Hab. GUATEMALA, Zapote, Las Mercedes, Chiacam in Vera Paz (*Champion*).

The long antennæ and the colour of the legs and of the elytra readily separate this species from *P. guatemalensis*.

4. **Palæothona unicostata.**

Black; head, thorax, base of the antennæ, and the four anterior legs fulvous; head rugose, the middle portion raised; thorax impunctate; elytra very closely punctured, metallic blue, the sides with a single costa from the shoulder to the apex.

Length $1\frac{1}{4}$–$1\frac{1}{2}$ line.

Head with the middle of the vertex longitudinally raised, the space near the eyes rugosely punctured; frontal tubercles short but strongly raised; carina indistinct; antennæ more than two thirds the length of the body, the three or four lower joints fulvous, the rest black; thorax transverse, the posterior margin sinuate and depressed in front of the scutellum, surface impunctate, shallowly and transversely depressed near the base; scutellum black; elytra with the base but slightly raised, metallic blue, more closely and rather more distinctly punctured than in the preceding species, with a strongly raised costa extending from the shoulder to within a little distance of the apex; posterior legs piceous or obscure dark fulvous, the others entirely of the latter colour.

Hab. GUATEMALA, Chiacam in Vera Paz (*Champion*).

5. **Palæothona semifulva.**

Fulvous; antennæ (their three basal joints excepted) and the apices of the posterior femora black; thorax impunctate; elytra metallic dark blue, punctate-striate.

Length $1\frac{1}{4}$–$1\frac{1}{2}$ line.

Head impunctate; frontal tubercles very indistinct; carina short and thick; antennæ elongate, the third joint more than twice as long as the second; thorax twice as broad as long, the sides moderately rounded, the angles distinct but not produced, surface entirely impunctate; scutellum fulvous; elytra with a very

slight depression below the base, the latter not raised, the punctured striæ more distinct anteriorly and not very closely approached; underside and legs fulvous, the intermediate and posterior tibiæ sometimes, as well as the apices of the posterior femora, black or piceous.

Hab. PANAMA, David in Chiriqui (*Champion*).

The fulvous colour of the underside and scutellum, as well as the punctate-striate elytra, separate *P. semifulva* from its allies.

6. Palæothona subrugosa.

Fulvous; antennæ black, three basal joints fulvous; elytra metallic blue, closely and distinctly punctured, the interstices somewhat rugose.

Length 2 lines.

Head impunctate; frontal tubercles distinctly raised, broad and obliquely transverse; carina distinct; apices of the mandibles furnished with some stiff bristles; antennæ with the third joint more than twice as long as the second, but shorter than the fourth; thorax transverse, of equal width, the surface with a few fine punctures at the sides and a short longitudinal impression at the middle of the base; scutellum piceous; elytra with a basilar depression, closely and distinctly punctured, the interstices slightly rugose; underside and legs fulvous.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

Larger than the preceding species, the frontal tubercles distinct and broader, the elytra more closely and subrugosely punctured.

7. Palæothona violacea.

Below black; above violaceous blue; head and thorax blackish, impunctate; elytra scarcely or more distinctly punctured, the base slightly raised.

Length 1 line.

Head with the frontal tubercles distinct; the extreme base of the antennæ fulvous, the second joint obscure fulvous, the rest black; thorax transverse, impunctate, the base with a distinct depression in front of the scutellum; elytra dark blue, the base distinctly raised and bounded behind by a transverse depression, extremely finely punctured (only visible under a strong lens in one specimen); underside and legs black.

Hab. GUATEMALA, Senahu in Vera Paz, Cerro Zunil (*Champion*).

Although the two specimens from the above localities differ in the punctuation of the elytra, which in the specimen from Cerro Zunil is very distinct, I have no doubt about their specific identity, as I cannot find any other characters of distinction. In the specimen from Senahu the elytra are very finely punctured and the thorax is not so black as in the other specimen; other differences I cannot discover.

8. Palæothona frontalis.

Below black; lower part of the head, thorax, and the base of the femora fulvous; elytra greenish æneous, closely and irregularly punctured.

Length 2 lines.

Head impunctate, the vertex blackish-æneous, the lower part of the face fulvous; frontal tubercles and carina strongly raised; eyes very large and convex; antennæ black, the two or three lower joints fulvous; thorax about twice as broad as long, the sides rounded before the middle and with a narrow flattened margin, surface entirely impunctate, impressed with a shallow fovea in front of the scutellum; elytra slightly widened

behind, their base not raised and scarcely visibly depressed behind, the punctuation distinct, close and irregular, the interstices slightly wrinkled anteriorly; legs fulvous, the upperside of the anterior and the apices of the posterior femora piceous.

Hab. MEXICO, La Parada (*Sallé*). A single specimen.

CHRYSOGRAMMA.

Body oblong; frontal tubercles absent; penultimate joint of the palpi thickened, the terminal joint acute, conical; antennæ filiform, the third joint longer than the second; thorax transverse, without basilar groove, the posterior margin rounded; scutellum broad, triangular; elytra oblong, narrowed towards the apex, surface closely and irregularly punctured; posterior femora strongly incrassate; the tibiæ feebly channelled, the posterior ones armed with a short spur; the first joint of the posterior tarsi as long as the three following joints united; claws appendiculate; anterior coxal cavities open; prosternum narrowly elongate; apex of the mesosternum deeply concave-emarginate.

The single species for which I propose the present genus has much the appearance of a *Disonycha*, while its coloration resembles that of a species of *Calligrapha* of the group Chrysomelinæ. It cannot, however, be mistaken for the former genus, on account of the entire absence of a transverse thoracic groove, the more transversely shaped thorax, the posterior margin of which is regularly rounded and not obliquely cut at its posterior angles as is always the case in *Disonycha*. The deeply emarginate apex of the mesosternum into which the base of the metasternum projects is another distinguishing character of the present genus, the peculiar coloration of which is of rare occurrence among the Halticinæ.

1. **Chrysogramma octomaculata.** (Tab. XXII. fig. 8.)

Oblong-ovate, below fulvous; head and thorax greenish-æneous, closely punctured; elytra testaceous, closely punctured, the sutural and lateral margins and eight spots on each elytron (3, 2, 2, 1) metallic green.

Length 2–3 lines.

Upper part of the head greenish-æneous, finely granulate, and impressed with a few deep punctures; lower part fulvous, deeply punctured each side of the clypeus; antennæ about half the length of the body, the four lower joints and the terminal one fulvous, the others black; thorax three times as broad as long, the sides nearly straight, the anterior angles oblique, the surface finely granulate like the head, rather closely and distinctly punctured, metallic greenish-æneous, the sides narrowly fulvous; scutellum very broad, impunctate, æneous; elytra closely and distinctly punctured, with eight metallic greenish spots placed as follows:—a narrow elongate one within the shoulder to which a smaller spot is generally attached, another near the scutellum, two small round spots near the middle, two larger ones below the latter (the inner one of which is joined to the sutural band), and a spot at the apex attached to the lateral margin; the femora are also more or less stained with greenish-æneous, as well as the mesosternum.

Hab. GUATEMALA, Capetillo (*Champion*).

The metallic spots of the elytra are in some specimens of a bronze colour.

b. *Anterior coxal cavities closed.*

ACROCYUM.

Body oblong-ovate; frontal tubercles broad and obsolete; palpi filiform, the terminal joint elongate and pointed; antennæ filiform, slender, the second joint short, the third and following joints elongate and

nearly equal in length; thorax transverse, the posterior margin curved, the anterior angles acute and slightly thickened, the surface without transverse groove; scutellum triangular; elytra sparingly punctured, their epipleuræ continued to the apex; posterior femora moderately thickened; tibiæ simple, not channelled, the posterior ones armed with a short spur; claws appendiculate; prosternum narrow, widened posteriorly; the anterior coxal cavities closed; base of the mesosternum deeply emarginate.

In its general shape and also in the form of the thorax *Acrocyum* agrees with *Chrysogramma*, from which the closed anterior coxal cavities at once distinguish it; the appendiculate claws and different shape of the mesosternum separate the genus from *Blepharida*.

1. **Acrocyum dorsalis.** (Tab. XXII. fig. 23.)

Obscure fulvous; above flavous; intermediate joints of the antennæ piceous; elytra with a few deep punctures, a large rhomboidal spot on the disc, two small spots at the base, and another below the middle dark fulvous.

Length $3\frac{1}{2}$–4 lines.

Head impunctate, with an oblique deep groove near the inner margin of the eyes; carina scarcely raised, very broad and joined to the epistome; antennæ half the length of the body, the first four and the last two joints flavous, the rest piceous; thorax nearly three times as broad as long, the sides slightly narrowed at the base, the anterior angles broad and slightly produced, the disc with one or two foveæ at the sides and another at the middle near the base, the rest of the surface impunctate, flavous; elytra widened near the middle, with a few deep punctures arranged in double interrupted short rows at the base near the shoulder and at the middle near the suture, a large rhomboidal fulvous spot extends across the suture at the middle, at the sides of which a small similarly coloured spot is placed, two other spots are situated near the extreme base; legs obscure fulvous, the tibiæ marked with an obscure darker spot at the middle.

Hab. Mexico (*coll. Jacoby*).

Two specimens of this insect are contained in my collection. The punctuation of the elytra in this species is very peculiar as there are only short rows of a few deep punctures visible near the base and the middle, the rest of the surface being impunctate.

2. **Acrocyum sallæi.** (Tab. XXII. fig. 25.)

Testaceous; antennæ black, the basal joints testaceous; head and thorax impunctate; elytra punctate-striate, two or three basal spots, three others behind the middle and one at the apex, piceous; femora and tibiæ spotted with black.

Length $2\frac{1}{2}$ lines.

Head impunctate; the frontal tubercles small, flattened, and rather widely separated; carina absent; apical joint of the palpi piceous, elongate and pointed; antennæ two thirds the length of the body, the second joint short, the third double the length of the second, the fourth slightly longer than the third, the four basal joints pale fulvous, the rest black; thorax twice as broad as long, the sides nearly straight, the anterior angles slightly thickened and produced, the posterior margin sinuate in front of the scutellum, the surface impunctate and with some obsolete depressions near the sides and basal margin; scutellum triangular, of moderate size; elytra wider at the base than the thorax, convex, finely punctate-striate, the punctures nearly disappearing towards the apex, two or three spots at the base, placed transversely (three below the middle, obliquely situated, and a small spot near the apex), piceous; underside testaceous, that of the thorax with a black spot; sides of the breast, a spot near the apices of all the femora, and the base and apices of the tibiæ, black; tarsi fulvous above, the sides piceous.

Hab. Mexico, Yolotepec (*Sallé*). Two specimens.

3. **Acrocyum maculicollis.** (Tab. XXII. fig. 24.)

Piceous below; above flavous; head with one, thorax with nine, black spots; elytra finely and closely punctured, the suture fulvous, with two greenish-black markings, the disc with seven or eight small spots of the same colour.

Length 3 lines.

Head impunctate, a spot on the vertex, the inner margin of the eyes, and the frontal tubercles black; the labrum and the apical joint of the palpi piceous; antennæ half the length of the body, black, the basal joints flavous at the base, gradually increasing in length from the second to the fourth joint; thorax scarcely more than twice as broad as long, the sides straight, the anterior angles acute but scarcely produced, the surface impunctate with a small but deep fovea on each side, flavous, with two rows of black spots, placed transversely, the first row consisting of four, the second row of five spots which occupy the intervening spaces between the first row; scutellum fulvous; elytra wider at the base than the thorax, very closely and finely punctured, the sutural and lateral margins narrowly fulvous, the former with an irregular short transverse band before and a spot at the middle, greenish-black; of the other spots, two are placed at the basal margin, one below the latter at the sides, three very small ones at the middle across the disc, two others (larger, the posterior one V-shaped near the apex), and a very small spot at the apical angle; underside piceous, the upper part of the breast and a spot at the sides of the metasternum flavous; legs spotted with flavous and piceous.

Hab. MEXICO, Jalapa (*Höge*). A single specimen.

4. **Acrocyum tarsata.**

Flavous; head and thorax impunctate; elytra finely and closely punctured, with regular rows of deeper punctures, testaceous; three spots at the base and three below the middle, placed transversely, piceous.

Length 3 lines.

Head without distinct frontal tubercles, impunctate; antennæ slender, two thirds the length of the body, the third joint nearly twice the length of the second, their colour entirely dark fulvous; thorax twice as broad as long, rather depressed above, impunctate, the sides evenly rounded, the anterior angles slightly produced outwards, the posterior margin somewhat sinuate, on the surface of a pale flavous colour, with a small piceous spot at each side at the middle of the extreme lateral margin; elytra extremely closely punctured, with single and some double rows of more strongly impressed punctures; at the extreme base three small piceous spots are placed transversely (the one near the scutellum very obscure), three others below the middle are larger, and the sutural one is of an elongate shape; underside and legs darker fulvous; the first joint of the posterior tarsi is as long as the three following joints united; the first joint of the anterior tarsi is greatly dilated; the base of the mesosternum emarginate; the anterior coxal cavities closed.

Hab. GUATEMALA, Yzabal (*Sallé*).

This species, of which a single specimen only is before me, differs from the three others described here by the elongate joint of the posterior tarsi and by the different punctuation of the elytra. I have placed the species in this genus, as it has the other structural characters in common with it.

NOTOZONA.

Notozona, Clark, Journ. of Entom. ii. p. 409 (Nov. 1865).

The handsome and large species which form the genus *Notozona* have for the most part been described by Clark and Mr. Baly, while the genus itself requires, in my opinion, further investigation and better definition. I find, for example, that the palpi in *Notozona* are described as robust and claviform by Chapuis, who separates on that

account *Blepharida* from *Notozona*. In several of Clark's and Mr. Baly's species an examination of the palpi proves them to be *filiform*. Another distinctive character given by Chapuis is the punctate-striate elytra; *Notozona jansoni*, Baly, has, however, closely and irregularly punctate elytra. Taking it altogether, I think that *Notozona* ought to be united with *Blepharida*, of which we have several species, and which I am unable to separate structurally from the present genus, as the shape of the palpi alone does not seem to be a good constant character. If the emargination of the posterior tibiæ is looked upon as a structural difference, it will not hold good either, as a more or less distinct emargination may be seen in most species of *Notozona* (*N. histrionica*, for example).

1. **Notozona histrionica.** (Tab. XXII. fig. 9.)

Notozona histrionica, Baly, Trans. Ent. Soc. 3 ser. ii. p. 433 (1865) [1].

Hab. Mexico [1], Cordova, Orizaba, Playa Vicente (*Sallé*), Jalapa (*Höge*).

2. **Notozona guatemalensis.**

Notozona guatemalensis, Duvivier, Comptes rendus de la Soc. entom. de Belgique, p. cccxii (1884)[1].

Hab. Guatemala [1].

Allied to *N. histrionica*, but differing in the punctuation and pattern of the elytra.

3. **Notozona elegans.**

Notozona elegans, Clark, Journ. of Ent. ii. p. 411 (Nov. 1865) [1].

Hab. Mexico [1].

This species seems to me to be identical with *N. histrionica*, Baly, according to the description of Clark.

4. **Notozona semifasciata.** (Tab. XXII. fig. 10.)

Fulvous; the six terminal joints of the antennæ black; elytra regularly punctate-striate, black or fuscous, two spots at the base, a transverse irregularly dentate band before the middle, and three large spots, placed triangularly at the apex, flavous.

Var. Elytra dark fulvous, the anterior band separated into three spots.

Length 4–4½ lines.

Head with a few fine punctures near the inner margin of the eyes and at the vertex; thorax nearly three times as broad as long, the posterior margin sinuate at each side, the lateral margins rounded, the anterior angles thickened and produced outwards, the surface rather closely and finely punctured, intermixed with a few larger punctures; scutellum black; elytra very convex, robust, and scarcely narrowed behind, regularly punctate-striate, each elytron with ten rows of punctures, the flavous spots and bands are placed as follows:—a small spot at the shoulder, a larger obliquely shaped one near the scutellum, a transverse short band below the middle near the lateral margin, a triangular spot near the suture, and a more transversely shaped one at the extreme apex, the anterior band is deeply dentate near its middle and extends from there to the suture in an oblique direction.

Hab. Guatemala, Yzabal (*Sallé*), Chacoj in the Polochic valley (*Champion*).

In the variety, the elytra have each eight flavous spots (2, 3, 2, 1); these vary greatly in size and shape and occupy sometimes nearly the entire disc, the black intervening spaces being reduced to thin lines or otherwise to broad bands.

5. Notozona nicaraguensis.

Fulvous; seven last joints of the antennæ fuscous; elytra closely geminate punctate-striate, flavous, each elytron with two regular transverse bands and a triangular spot at the apex, dark fulvous.

Length 4 lines.

Head very finely punctured round the eyes, transversely grooved between the latter; antennæ half the length of the body, third and fourth joints equal, the four basal joints fulvous, shining, the rest fuscous; thorax transverse, of nearly equal width, fulvous, shining, the surface with a rounded fovea near the middle of the base, finely and closely punctured; scutellum fulvous; elytra each with about ten double rows of punctures, which are a little confused near the sutural margin, flavous, a very regular transverse band at the base, another slightly larger one at the middle, and a spot near the apex, dark fulvous (neither of these bands touches the outer margin or the suture); underside and legs fulvous.

Hab. NICARAGUA (*coll. Jacoby*). A single specimen.

6. Notozona sparsa.

Notozona sparsa, Clark, Journ. of Ent. ii. p. 411 (Nov. 1865) [1].

Hab. MEXICO [1].

The types of this and of the other species of *Notozona* described by Clark are contained in the collection of the British Museum and will, I hope, be figured by Mr. C. O. Waterhouse in the 'Aid to the Identification of Insects.' On account of the filiform palpi of the present insect it ought to be placed in *Blepharida*.

7. Notozona elegans.

Notozona elegans, Clark, Journ. of Ent. ii. p. 411 (Nov. 1865) [1].

Hab. MEXICO [1].

8. Notozona rufofusca.

Notozona rufofusca, Clark, Journ. of Ent. ii. p. 412 (Nov. 1865) [1].

Hab. HONDURAS [1].

9. Notozona humilis.

Notozona humilis, Clark, Journ. of Ent. ii. p. 412 (Nov. 1865) [1].

Hab. MEXICO [1].

10. Notozona tenella.

Notozona tenella, Clark, Journ. of Ent. ii. p. 412 (Nov. 1865) [1].

Hab. MEXICO [1].

A small species, much resembling in colour *B. unicolor*, Jac., but differing in the flat and not convex interstices of the elytra, in the less deeply impressed punctuation, and in its comparatively shorter and more convex shape.

BLEPHARIDA.

Blepharida, Rogers, Proc. Acad. Phil. viii. 1856, p. 29.

The North-American species which served the author for the establishment of this genus were at first thought to belong to the true Chrysomelidæ, amongst which they were included by Rogers. Stål and other authors recognized the true relationship of *Blepharida* with the Halticinæ, where it found its place near the Old World genus *Podontia*, to which it is no doubt closely allied. I have already expressed my opinion, in my remarks on the genus *Notozona* (p. 382), that the latter might well be included in *Blepharida*, since constant structural differences seem to be absent. I have nevertheless abstained from describing the Central-American species under one generic name for the present, since the coloration of *Blepharida* seems to admit the separation of its species for the present. The latter have, as far as is known, their elytra of a pale flavous ground-colour, upon which more or less numerous small spots are placed, either transversely or longitudinally, and this applies also to nearly all the species of *Podontia* from the Old World. In *Notozona* we find either broad transverse bands or separate but regular large spots, but not irregularly placed *small* spots.

1. **Blepharida suturalis.** (Tab. XXII. fig. 12.)

Below fulvous; above flavous; head and thorax finely and closely punctured; elytra strongly punctate-striate, the posterior half of the suture and a number of transverse and longitudinal spots fulvous.

Length 4 lines.

Head finely punctured at the sides; antennæ pale fulvous, the third and fourth joints equal; thorax of equal width, three times as broad as long, the sides slightly rounded, the anterior angles acute and rather produced, the surface very finely and remotely punctured, the disc with some obsolete shallow depressions; elytra convex and wider than the thorax, flavous, strongly and regularly punctate-striate, the striæ anteriorly curved towards the base, the lateral margin entirely as well as the latter half of the suture reddish-fulvous; of the similarly coloured spots, one is placed at the humeral callus, and a smaller one directly below, the others form somewhat transverse patches and bands, of which one is placed before, the second below the middle, and the third near the apex; these spots vary, however, to such an extent, that only a figure can give a correct idea; underside and legs dark fulvous.

Hab. GUATEMALA, San Gerónimo, Cubulco (*Champion*).

The only constant character in the pattern of the elytra in this insect seems to be the posterior fulvous portion of the suture, which anteriorly remains of the ground-colour.

2. **Blepharida reticulata.** (Tab. XXII. fig. 11.)

Oblong, obscure testaceous; thorax finely punctured; elytra flavous, strongly punctate-striate, the entire disc occupied with irregular transversely shaped fulvous spots.

Length 4 lines.

Head very minutely punctured; antennæ slender, two thirds the length of the body, testaceous; thorax transversely subquadrate, the anterior angles acute and produced, the surface extremely finely punctured; elytra with ten rows of regular and deep punctures, the striæ more closely approached at the sides than on the disc.

Hab. MEXICO (*Sallé*). A single specimen.

The figure referring to the present insect gives a better idea of the design of the elytra than a description. The species cannot be mistaken for the North-American *B. rhois*, Forst., on account of its larger and more elongate shape and that of the thorax, which is quite differently formed; the latter in the North-American species is not semiquadrate, but narrowed in front, and has some deeply impressed punctures placed on its disc; the posterior margin of the thorax in *B. reticulata* is slightly, but evenly, rounded, and not oblique as in *B. rhois*.

3. **Blepharida mexicana.** (Tab. XXII. fig. 16.)

Testaceous; head and thorax very finely punctured; elytra strongly punctate-striate, the sutural and lateral margins and three longitudinal rows of interrupted spots on each elytron dark fulvous.

Length $3\frac{1}{2}$–4 lines.

Head extremely finely punctured; apices of the mandibles black; frontal tubercles obsolete; antennæ two thirds the length of the body, testaceous, the third and fourth joints equal; thorax three times as broad as long, narrowed at the base, the sides rounded before the middle, the anterior margin straight, its angles acute, but scarcely produced, the surface very finely and irregularly punctured; scutellum fulvous; elytra convex, subquadrate-ovate, each elytron with ten rows of regular and distinct punctures (the first very short), the spaces between the third, fifth, and seventh rows occupied by irregular-shaped longitudinal dark fulvous spots, which are sometimes connected by transverse branches; the sutural and lateral margins are also, although narrowly, of the same colour.

Hab. MEXICO, Cordova (*Höge, Sallé*).

The shape of the spots on the elytra in this species is very irregular and variable, but always disposed in three longitudinal rows; a small spot at the humeral callus and another more elongate near the scutellum seem to be constant.

4. **Blepharida trifasciata.** (Tab. XXII. fig. 14.)

Subquadrate-ovate, convex; thorax flavous, margined with piceous; elytra deeply punctate-striate, flavous, a spot at the shoulder, and three obliquely-shaped transverse broad bands not extending to the lateral margin, fulvous.

Length 3 lines.

Head distinctly and rather closely punctured, flavous, a central longitudinal band and the space surrounding the eyes fulvous; antennæ nearly two thirds the length of the body, fulvous; palpi slender, filiform; thorax more than twice as broad as long, the sides rounded and narrowed in front, the anterior angles produced into a short tooth, the disc closely and strongly punctured, here and there with some irregular depressions, flavous, all the margins accompanied by a row of piceous spots, of which some are also placed at each side obliquely and anteriorly; scutellum fulvous; elytra with ten rows of deep, but not very closely placed, punctures, flavous, the three fulvous bands broad, of oblique shape, the first before, the second behind the middle, and the third near the apex, the last two bands very irregularly shaped at their margins, and interrupted by the flavous ground-colour, a fulvous spot is also placed at the shoulder, and the lateral margin and elytral epipleuræ are of the same colour, as well as the underside and legs.

Hab. Mexico, Juquila (*Sallé*).

Closely allied in shape to *B. rhois*, but differing in the close and distinct punctuation of the thorax and the design of the elytra. A single specimen.

5. **Blepharida marmorata.** (Tab. XXII. fig. 13.)

Subquadrate-ovate, fulvous; thorax finely and closely punctured; elytra closely semipunctate-striate, flavous, the sutural and lateral margins, and numerous irregularly shaped spots on the disc, black.
Length 3 lines.

Hab. Mexico, Cuernavaca (*Sallé*).

The thorax of this species is slightly widened at the middle, its sides are straight, and the surface is closely and finely punctured, and has a sinuate transversely impressed obsolete groove near the posterior margin; the elytra, instead of having regular rows of deep punctures, are finely, closely, and not very regularly punctate-striate, and the numerous spots on the disc are not fulvous, but black.

A single specimen.

6. **Blepharida punctatissima.** (Tab. XXII. fig. 17.)

Flavous; terminal joints of the antennæ black; elytra extremely closely punctured, the suture, a transverse oblique band below the middle, and several smaller spots on the disc and apex, fulvous.
Length 4 lines.
Head impunctate; four basal joints of the antennæ flavous, the rest black, the fourth joint longer than the third; thorax twice as broad as long, the sides moderately rounded, the posterior margin sinuate, not produced at the middle, the anterior angles blunt and slightly produced outwards, the surface obsoletely and finely punctured, with some irregular shallow depressions; scutellum fulvous; elytra oblong, closely covered with distinct punctures, arranged in ill-defined double and treble closely approached rows, the sutural and lateral margins narrowly fulvous, a band of the same colour is placed obliquely across the suture below the middle and not quite extending to the lateral margin, several other spots are also attached to the sutural margin before and below the middle as well as near the sides and at the base.

Hab. Mexico, Cordova (*Höge*). A single specimen.

The design of the elytra is probably variable in different specimens, and may take the form, perhaps, of several transverse bands; the close arrangement of the punctuation, in connection with the black antennæ and the size of the species, will assist in distinguishing *B. punctatissima* from its allies.

7. **Blepharida godmani.** (Tab. XXII. fig. 18.)

Oblong-ovate, convex, dark fulvous; antennæ flavous, the three terminal joints black; elytra very closely punctate-striate, fulvous, covered with numerous yellow spots, and with an irregular transverse yellow band before the middle.
Length $3\frac{1}{2}$ lines.
Head with a few punctures near the inner margin of the eyes, forming a rather distinct groove in front of the latter; labrum flavous; fourth joint of the antennæ distinctly longer than the third, the latter one half longer than the second joint; thorax three times as broad as long, of the same shape as in *B. punctatissima*, the disc with a rounded fovea at each side, and a more oblique depression near the middle, rather closely

covered with fine punctures; elytra with distinct and close single rows of punctures, spotted irregularly with flavous, the spots forming an irregular-shaped band near the middle, at the apex the flavous colour predominates, but is interrupted by a larger fulvous spot near the lateral margin, and several smaller spots near the suture; elytral epipleuræ nearly black; underside and legs fulvous, the tibiæ darker, covered with fine whitish silky pubescence.

Hab. MEXICO, Tehuantepec (*Sallé*). A single specimen.

The spots of the elytra vary even on each elytron, but the punctuation is not arranged in double or treble rows as in *B. punctatissima*, and the shape of the present species is also less elongate and more convex.

8. **Blepharida maculicollis.** (Tab. XXII. fig. 19.)

Ovate, convex, black; antennæ, tibiæ, and tarsi obscure fulvous; thorax fulvous, with two transverse narrow black bands; elytra closely punctate-striate, flavous, each elytron with four irregular transverse rows of small piceous spots.

Length 3 lines.

Head rather closely and finely punctured at each side; labrum testaceous, the apices of the mandibles black; antennæ pale fulvous, the first joint stained with piceous above, the third and fourth joints of equal length; thorax narrow, the sides nearly straight, the disc with two round and distinct foveæ on each side, and a more obsolete transverse groove near the base, pale fulvous, with a short anterior transverse band, interrupted at the middle of its posterior margin, and another larger band (the ends of which are widened) near the base, this latter has also a small spot placed at its middle pointing to the interrupted space of the anterior band, the disc is nearly impunctate and shining; scutellum dark fulvous; elytra with closely approached double rows of punctures, obscure flavous, each elytron with about twenty-two dark fulvous or piceous spots placed in four irregular transverse rows, of these a spot is placed at the shoulder, and another surrounds the scutellum, while a nearly black spot, placed close to the lateral margin, extends across the elytral epipleuræ; posterior femora nearly black, the rest of the legs fulvous.

Hab. MEXICO, Cuernavaca (*Sallé*). A single specimen.

9. **Blepharida quatuordecimpunctata.** (Tab. XXII. fig. 15.)

Fulvous; thorax finely punctured; elytra flavous, finely geminate punctate-striate, each elytron with seven piceous spots.

Var. Larger; terminal joints of the antennæ black; elytra with a single spot at the shoulder, the others absent.

Length 4–4½ lines.

Hab. MEXICO, Tuxtla, Panistlahuca (*Sallé*).

The punctuation of the elytra in this species agrees with *B. mexicana*, except that in the latter it is somewhat stronger; the position of the spots in *B.* 14-*punctata* is as follows:—Three spots placed longitudinally and parallel with the suture, two at the middle of the disc between the sutural three, and two others, of which one is placed at the shoulder, and the second opposite the central sutural spot near the lateral margin. In the specimen which I look upon as a variety, as it agrees in all structural details, all the spots, with the exception of the one placed at the shoulder, are absent, and the six terminal joints of the antennæ are black; in both forms the sutural and lateral margins as well as the epipleuræ are narrowly fulvous. The shape and punctuation of

the thorax is the same as in *B. punctatissima*; while the pattern of the elytra resembles that of *Notozona* 14-*maculata*, Clark, but the position of the spots in that species is quite different.

10. **Blepharida unicolor.** (Tab. XXII. fig. 21.)

Elongate, parallel, entirely fulvous; antennæ black, the basal joints fulvous; thorax finely punctured; elytra deeply and very regularly punctate-striate, the interstices convex near the apex.

Length 3 lines.

Head finely punctured at the sides; antennæ black, the four basal joints fulvous, the fourth joint longer than the third; thorax not more than twice as broad as long, the sides rounded and narrowed in front, the anterior angles not produced, the surface irregularly and finely punctured; scutellum rather small; elytra narrow and nearly parallel, of rather darker colour than the thorax, each elytron with ten closely approached rows of deep and round punctures, the punctures more widely separate anteriorly, the interstices near the apex and at the sides costate.

Hab. Mexico, Jalapa (*Höge*). A single specimen.

The thorax in this species is narrowed in front and less transverse than usual, and the elytral punctures are more closely placed than in the allied forms with regular punctate-striate elytra, in which the interstices at the same time are not convex.

11. **Blepharida flohri.** (Tab. XXII. fig. 20.)

Piceous or flavous below; head and thorax dark fulvous, finely punctured; elytra flavous, closely punctate-striate, covered with large fulvous patches and smaller spots.

Length 3 lines.

Hab. Mexico, Michoacan (*Flohr, coll. Jacoby*).

There are no structural differences to be found in this species to separate it from several others of the genus, the nearest ally of which is perhaps *B. godmani*; that species is, however, of larger size, and the punctuation is less regularly arranged; in *B. flohri* the elytra have about nine or ten larger roundish fulvous spots, the intervals being filled up with smaller ones; but the two specimens kindly sent to me by Mr. Flohr differ in these markings, and are of very irregular shape in one; the figure will give a better idea of their appearance.

OXYGONA.

Oxygona, Chevrolat, in d'Orbigny's Dict. Univ. Hist. Nat. ix. p. 368 (1847).
Oxygonus, Clark, Journ. of Ent. ii. p. 390 (Nov. 1865).

The shape of the thorax, which is transverse, narrow, and angulate at the anterior angles, in connection with the closed anterior coxal cavities, separates *Oxygona* from the preceding genera. Most of the known species described by Clark inhabit South America; a single one of wide distribution, and apparently not uncommon, is known from Mexico.

1. Oxygona acutangula.

Platiprosopus acutangulus, Chevr. Col. Mex. Cent. i. fasc. 3, nr. 68 (Nov. 1834) [1].
Oxygona acutangula, Clark, loc. cit. p. 390.
Oxygona melanocera, Erichs. Schomb. Reisen Guiana, iii. p. 578 [2].

Hab. MEXICO[1], Playa Vicente, Vera Cruz, Cordova (*Sallé*), Jalapa, Oaxaca, Cerro de Plumas (*Höge*); BRITISH HONDURAS, Rio Hondo (*Blancaneaux*); GUATEMALA (*Sallé*), San Gerónimo (*Champion*); NICARAGUA, Chontales (*Janson*); COSTA RICA, Cache (*Rogers*); PANAMA, Volcan de Chiriqui, Bugaba (*Champion*).—COLOMBIA (*coll. Jacoby*); GUIANA[2].

The numerous specimens before me from the above localities exhibit some slight variations in size and in the colour of the antennæ, which, together with the extreme apex of the tibiæ and the tarsi, are generally black, but in some specimens fulvous; structural differences of any importance I cannot find. The species has been well described by Clark.

2. Oxygona bifasciata.

Flavous; elytra very finely punctured, obscure fulvous, a transverse band at the base and another below the middle black.
Length 3 lines.
Head with a central round fovea on the vertex, impunctate; antennæ two thirds the length of the body, obscure fulvous, the basal joint stained with piceous above; thorax three times as broad as long, the sides narrowly margined and rounded, constricted at the base, the anterior angles acute and produced, surface impunctate; scutellum flavous; elytra very finely punctured, the bands broad, the anterior one occupying one third the length of the elytra, the other the apical third portion.

Hab. PANAMA, Volcan de Chiriqui (*Champion*). A single specimen.

The species here described seems allied in coloration to *O. succinctus*, Clark, but differs in the impunctate head and in the different shape of the transverse posterior elytral band, which in Clark's species does not extend to the sides; the antennæ in the latter species are also differently coloured.

PSEUDOGONA.

Palpi filiform, their penultimate joint not thickened; thorax subquadrate, the anterior angles not produced; all the other characters as in *Oxygona*.

I am obliged to constitute this genus for the reception of two species from the State of Panama, and to separate them from *Oxygona* on account of the totally different shape of the thorax, which is only about one half broader than long, instead of being of the narrow transverse shape as in the allied genus; the palpi also are filiform and thin, the eyes larger, and the frontal tubercles very obsolete and narrowly transverse. *Pseudogona* is also closely allied to *Systena*, but the entire absence of a thoracic groove and the rather differently shaped antennæ will not permit me to include these insects in that genus. In *Systena* there is also generally a want of a transverse groove on the vertex,

the eyes as well as the frontal tubercles being small; the reverse is the case in *Pseudogona*.

1. **Pseudogona panamensis.**

Fulvous or flavous; head, intermediate joints of the antennæ, the tibiæ, and breast, black; thorax fulvous, impunctate; elytra testaceous, a transverse band at the base, another at the middle, and a third below the latter, black.

Var. *a*. The two anterior bands of the elytra partly joined, including two testaceous spots.

Var. *b*. Smaller and narrower, with an additional spot at the apex; antennæ black.

Length $1\frac{1}{2}$–$2\frac{1}{2}$ lines.

Head with a deep fovea on the vertex, black; palpi fulvous; antennæ less than half the length of the body, the third joint distinctly longer than the fourth, the four lower joints obscure fulvous, the following four black, the three terminal ones pale testaceous; thorax not more than twice as broad as long, rather convex, the angles but little produced, the anterior ones slightly thickened, the surface shining, fulvous, impunctate; scutellum black; elytra very finely punctured, the punctuation arranged in close indistinct rows, the two anterior bands connected at the suture, and in the variety near the lateral margin as well, so as to surround two flavous spots, the posterior band deeply concave at its posterior margin and extending across the suture.

Hab. PANAMA, Volcan de Chiriqui, Bugaba (*Champion*).

Oxygona sexnotata, Clark, bears a most extraordinary resemblance to the present species in regard to the coloration of its elytra, and can, in fact, scarcely be distinguished in this respect; but in Clark's species the thorax is much more transverse and typical of the genus, and the elytra are less distinctly punctured, the insect is also larger and more robust, and the entire underside is flavous. I have nearly a dozen specimens before me which agree in all the principal characters. In the variety above noticed the bands are separated and narrower, and there is an additional spot at the extreme apex, but intermediate degrees of coloration prove the species to be a rather variable one.

2. **Pseudogona chiriquensis.** (Tab. XXII. fig. 22.)

Flavous; head, the tibiæ, and the breast black; thorax fulvous, impunctate; elytra obscure testaceous, opaque, extremely finely punctured, two short longitudinal stripes at the sides of each elytron, and two others at the sutural margin, at the base and below the middle black.

Length 2 lines.

Head impunctate; the frontal tubercles transversely oblique and obsolete; carina distinct, widened in front; antennæ long, black, the seven lower joints black, the following two fulvous (the rest wanting); thorax about one half broader than long, subquadrate, rather convex, the posterior angles acute and slightly produced, surface shining, fulvous, impunctate; scutellum black; elytra finely and closely punctured, opaque, testaceous, a humeral longitudinal stripe extending nearly to the middle of the elytra, to the inner side of which another very narrow line is attached, a stripe at the suture of equal length, and three other shorter spots below the middle, placed in the same way, black; underside and the femora flavous, the breast, tibiæ, and tarsi black.

Hab. PANAMA, Volcan de Chiriqui (*Champion*). One specimen.

This species cannot be considered a variety of *P. panamensis*, on account of the absence of the fovea on the vertex and the different pattern of the elytra, which are not shining, but opaque.

Posterior tibiæ emarginate at the apex.

a. *Anterior coxal cavities open.*

EUPLECTROSCELIS.

Euplectroscelis, Crotch, Proc. Acad. Phil. 1873, p. 75; Horn, Class. Col. N. A. 1883, p. 354.
? *Homophyla*, Harold, Deutsch. ent. Zeitschr. 1877.

In his description of this genus, Crotch has made no mention of the state of the anterior coxal cavities, although he places the genus near *Chætocnema*, in which the cavities are closed. Should this also be the case with the insect described by Crotch, then *Homophyla*, Har., is certainly a distinct genus, on account of the open coxal cavities, although the structural characters of both genera seem to be identical in every other respect. Mr. Baly gives *Homophyla* as a synonym for *Euplectroscelis* (Trans. Ent. Soc. 1877, p. 319), and I cannot at this moment find any other published notice with regard to these genera. In *Euplectroscelis* the posterior tibiæ are emarginate at their apices, the emargination itself being shaped anteriorly in a tooth, and the posterior tibiæ are also broadly sulcate throughout; these characters, as well as the broadly ovate and convex shape of the species, and the open anterior coxal cavities, will help to distinguish the genus. *Lactica dimidiata*, Thunberg, belongs to this genus, and seems to be almost identical with *Homophyla adusta*, Harold. From Central America no species has been described up till now.

1. **Euplectroscelis variabilis.** (Tab. XXII. figg. 1, 2.)

Dark fulvous, the base and apex of the elytra piceous or black; thorax minutely granulate-punctate; elytra finely and closely punctate-striate.

Var. *a*. Elytra black, a transverse spot at the middle of each elytron fulvous.

Var. *b*. Elytra fulvous, the apex only black; thorax black.

Var. *c*. Thorax and elytra black.

Var. *d*. Thorax black, elytra fulvous, antennæ with joints 7-8 piceous.

Length 1–1½ line.

Head impunctate; eyes large; antennæ with the second joint thickened and but little shorter than the third; thorax transverse, widened at the middle, the basal margin sinuate at each side, the surface extremely finely or a little more distinctly punctured; elytra very finely punctate-striate.

Hab. MEXICO, Jalapa (*Höge*), Orizaba, Vera Cruz (*Sallé*); BRITISH HONDURAS, Rio Hondo (*Blancaneaux*); GUATEMALA, Chiacam, San Juan in Vera Paz, Capetillo, Dueñas, San Gerónimo, Cahabon, Cerro Zunil, Sinanja, El Tumbador (*Champion*); NICARAGUA, Chontales (*Janson*); PANAMA, Volcan de Chiriqui, Bugaba, San Miguel in the Pearl Islands (*Champion*).

The impossibility of separating the many coloured and shaped specimens from the above localities into different species, on account of the want of any important structural differences, compels me to look upon these forms as varieties only of a very variable species. The attempt at any separation of these would result in half a dozen species,

founded only on colour and size, and yet many intermediate degrees would still be left; all these different forms, with a few exceptions, have been obtained at the same localities.

The amount of piceous or black of the elytra is extremely variable, being either confined to the base and apex only, or to the sutural and lateral margins to a greater or smaller degree as well; but whether all these forms really represent but one species or are referable to several, I am unable to decide.

2. **Euplectroscelis chontalensis.**

Ovate, entirely fulvous; second and third joints of the antennæ short, equal; thorax and elytra finely punctured.
Length 1 line.

Hab. NICARAGUA, Chontales (*Janson*).

The three specimens from the above locality do not seem to differ from the small specimens of *E. variabilis*, except in the rather shorter and entirely fulvous antennæ and in the very short second and third joints of the latter, which in the allied species are always unequal in length; other differences I cannot find.

3. **Euplectroscelis brevicornis.** (Tab. XXII. fig. 3.)

Ovate, convex, fulvous; antennæ short and robust; elytra finely punctate-striate, piceous.
Length $1\frac{1}{4}$ line.
Head rather elongate, with a few very fine punctures; antennæ short, gradually widened towards the apical joints, the second and third joints short and equal, the seventh and eighth obscure piceous, the rest pale fulvous; thorax very narrowly transverse, the anterior margin straight, the posterior margin widened at the middle, the surface closely and finely punctured, fulvous; elytra more distinctly punctate-striate, obscure piceous.

Hab. GUATEMALA, Las Mercedes (*Champion*).

The short antennæ and very transversely shaped thorax will help to distinguish this species, of which only a single specimen was obtained.

PSYLLIODES.

Psylliodes, Latreille, Cuv. Règ. Anim. 2nd edit. v. p. 154 (1829).

Psylliodes is readily distinguished from any other genus of Halticinæ by the ten-jointed antennæ, in connection with the open anterior coxal cavities. The species, amounting to more than seventy, are nearly all inhabitants of Europe, India, or Australia; two species have been described from North America, but none from South or Central America up till now. From the latter country two species are now before me, and further researches will probably add to their number, but it seems that the metropolis of *Psylliodes* is in the Old World.

1. Psylliodes guatemalensis.

Below piceous or blackish; head and thorax bluish-black, the latter finely and closely punctured; elytra dark blue, punctate-striate, the interstices obsoletely punctured.

Length 1¾ line.

Head finely and not very closely punctured, the sides near the eyes bounded by a rather deep groove; antennæ half the length of the body, black, the first two joints obscure fulvous and of nearly equal length; thorax scarcely twice as broad as long, the sides straight, slightly narrowed anteriorly; anterior angles broadly oblique, the surface finely and rather closely punctured; scutellum small, black; elytra not depressed below the base, the punctured rows regular and much more distinct anteriorly than towards the apex, interstices very obsoletely punctured and slightly wrinkled; legs piceous, the base of the posterior femora within fulvous; first joint of the posterior tarsus as long as half the tibia.

Hab. GUATEMALA, Senahu in Vera Paz (*Champion*). One specimen.

The shape of this species resembles somewhat the European *P. dulcamaræ*, which it also resembles in the colour of the elytra; the fine punctuation of the thorax and the longer antennæ, as well as other distinctions, sufficiently separate *P. guatemalensis*.

2. Psylliodes tristis.

Ovate, narrowed behind, below piceous, above black; antennæ, the four anterior legs, and the tarsi testaceous; thorax very closely punctured; elytra finely punctate-striate.

Length ¾ line.

Head scarcely visibly punctured; frontal tubercles and the carina absent; labrum testaceous; antennæ about half the length of the body, entirely testaceous, the third joint smaller than the second; thorax narrowly transverse, about three times as broad as long, posterior margin sinuate near the median lobe, the latter produced and broadly rounded, sides slightly rounded and narrowed in front, surface extremely closely and finely punctured, the interstices somewhat wrinkled; elytra finely and regularly punctate-striate, the interstices impunctate; legs testaceous, the posterior femora and tibiæ as well as the underside dark piceous.

Hab. GUATEMALA, Cerro Zunil (*Champion*). A single specimen.

b. *Anterior coxal cavities closed.*

CHÆTOCNEMA.

Chætocnema, Stephens, Ill. Brit. Ent. iv. p. 325 (1831).
Plectroscelis, Redtenbacher, Fauna Austr. 2nd ed. p. 946.

The species of this genus are for the most part of a metallic æneous colour, closely allied, and difficult in many instances to separate; their geographical range extends to all parts of the globe, Europe furnishing most of the species. A few have been described from Central America.

1. Chætocnema mexicana.

Chætocnema mexicana, Baly, Trans. Ent. Soc. 1877, p. 173[1].

Hab. MEXICO, Teapa[1] (*Pilate*).

An examination of the type in Mr. Baly's collection makes me doubt the specific distinction of this species from *C. divergens*, from which, according to the description of

the author, it is separated by the thorax having the sides straighter and by its generally broader shape; Mr. Baly has, however, placed two other specimens with the type which I absolutely do not distinguish from *C. divergens*, and I believe, moreover, that this shape of the sides of the thorax will be found to vary in different specimens. I must add also that the colour of *C. mexicana* is not "cuprea," as given in the diagnosis, but greenish-æneous, and the same as that of *C. divergens* and most of the species of the genus.

2. Chætocnema divergens.

Chætocnema divergens, Baly, Trans. Ent. Soc. 1877, p. 301[1].

Hab. Mexico, Campeche[1] (*coll. Baly*); British Honduras, Rio Hondo (*Blancaneaux*); Guatemala, near the city (*Salvin*), San Gerónimo (*Champion*); Nicaragua, Chontales (*Janson*); Panama, Volcan de Chiriqui (*Champion*).

I must refer all the specimens from the above localities to this species, with the type of which they agree perfectly, although slight variations in colour and even shape are not wanting; as remarked above, I do not think that the insect is specifically distinct from *C. mexicana*.

3. Chætocnema gravida.

Chætocnema gravida, Baly, Trans. Ent. Soc. 1877, p. 302[1].

Hab. Mexico, Teapa[1].

A broadly ovate species, in which the head is distinctly punctured. I cannot call the colour of the upper surface "cuprea," as given in the diagnosis, as the type before me is of a very obscure blackish-æneous colour, the thorax only showing a very slight greenish tint.

4. Chætocnema sallæi.

Chætocnema sallei, Baly, Trans. Ent. Soc. 1877, p. 302[1].

Hab. Mexico[1].

The head and thorax in this species are much more closely punctured than in *C. gravida*, and the general shape is less robust and convex, the elytra having even a subdepressed appearance. I am unable to distinguish this species from *C. denticulata*, Illig.

5. Chætocnema discoidalis.

Chætocnema mexicana, Harold, Coleopt. Hefte, 1879, p. 231[1].

Hab. Mexico[1].

On account of the name of "*mexicana*" having already been employed by Mr. Baly for another species of the genus I have been obliged to rename that of Von Harold.

6. **Chætocnema transversicollis.** (Tab. XXII. fig. 4.)

Robust, subquadrate-ovate, obscure dark æneous; antennæ piceous, the base fulvous; head impunctate; thorax closely and strongly punctured; elytra deeply punctate-striate, the interstices convex at the sides.

Length 1 line.

Head extremely finely granulate, with a few punctures round the inner margin of the eyes only, the space between the latter with a distinct transverse groove, which extends laterally and upwards to the vertex, where it is much deeper and separates the interocular space; epistome transversely subquadrate, impunctate; labrum and jaws piceous; antennæ nearly half the length of the body, the second and third joints and the base of the fourth fulvous, the rest piceous, the third and fourth joints of equal length; thorax very transverse, the sides rather strongly deflexed, slightly rounded, surface closely covered with distinct punctures, the interspaces granulate like the head; scutellum greenish, narrowly transverse; elytra distinctly narrowed at the apex, not wider at the base than the thorax, very deeply punctate-striate, the interstices convex near the sides and apex; legs piceous; posterior femora obscure æneous, the base of their tibiæ fulvous.

Hab. PANAMA, San Miguel in the Pearl Islands (*Champion*).

The robust appearance, transverse thorax, and impunctate head will help to distinguish *C. transversicollis* from its allies.

7. **Chætocnema capitata.** (Tab. XXII. fig. 5.)

Obscure æneous; base of the antennæ, tibiæ, and tarsi testaceous; head and thorax very strongly punctured; elytra deeply punctate-striate.

Length 1 line.

Hab. MEXICO, Guanajuato (*Sallé*); GUATEMALA, San Gerónimo (*Champion*).

The two specimens before me are of the same robust shape as *C. transversicollis* and several other allied species, but may be at once distinguished by the strongly punctured head and thorax in connection with the testaceous tibiæ and tarsi. The antennæ are comparatively short, and have the last four joints of a piceous colour; the thorax is a little more closely punctured than the head, and has a narrow impunctate longitudinal central space. I am not acquainted with a species of this genus from Central or South America in which the head is so strongly punctured as is the case in the present insect. *C. gravida*, Baly, is broader, still more robust, of a much darker and very obscure æneous colour, and the thorax is more closely punctured, the punctures being of a more oblong shape, and not separated by a smooth central space, as is the case in *C. capitata*. The Mexican specimen has the thorax still more closely punctured (especially near the sides) than in the one from Guatemala; but as I cannot see any other differences of importance, I believe it to represent the same species.

8. **Chætocnema cephalotes.**

Obscure æneous; legs piceous; antennæ and the posterior tarsi fulvous; head with a transverse row of punctures; thorax closely punctured; elytra strongly punctate-striate.

Length $\frac{3}{4}$ line.

Head opaque, with a single row of punctures between the eyes, the rest impunctate; antennæ rather long, fulvous, the apical joint fuscous; thorax transverse, the sides straight and narrowed towards the apex, the surface very closely punctured, the punctures somewhat confluent here and there, but almost disappearing

near the slightly thickened lateral margin; elytra distinctly narrowed towards the apex, closely and strongly punctate-striate, the interstices scarcely raised and very slightly wrinkled when viewed in a certain light.

Hab. GUATEMALA, Dueñas (*Champion*).

The transverse row of punctures on the head, in connection with the rather long and fulvous antennæ, constitute the principal points of distinction of this species, of which but a single specimen was obtained.

9. Chætocnema fulvicornis.

Ovate, greenish-æneous; antennæ and the four anterior legs fulvous; thorax closely and distinctly punctured; elytra strongly punctate-striate.

Length ¾ line.

Head impunctate, smooth, the transverse and oblique grooves near the eyes deeply impressed; antennæ more than half the length of the body, the third and fourth joints short, equal; thorax transverse, slightly narrowed in front, the sides very little narrowed, surface very closely but distinctly punctured; elytra strongly punctate-striate, the interstices convex at the sides; legs fulvous or fulvo-piceous, the posterior femora darker; intermediate and posterior tibiæ emarginate near the apex.

Hab. MEXICO, Guanajuato (*Sallé*); GUATEMALA, near the city, Panajachel, Capetillo, Zapote, Cerro Zunil (*Champion*).

Closely allied to *C. braziliensis*, Baly, but of a more broadly ovate shape and the elytra differently punctured; the punctures in *C. braziliensis* are very closely approximate as well as the striæ themselves; the latter in *C. fulvicornis* are much wider apart and their interstices much less convex. *C. confinis*, Crotch, seems also closely allied, but is described as having the thorax "lightly punctate" and the elytra "not very deeply striate." The Mexican specimens have the thorax a little more finely punctured, but other differences I cannot find; the examples from Cerro Zunil and Capetillo are smaller, with the thorax less transverse and its sides straighter, but I do not believe them to be specifically distinct.

10. Chætocnema frontalis.

Brownish-æneous; base of the antennæ and the posterior tibiæ fulvous; head finely punctured; thorax transverse, more distinctly and closely punctured; elytra strongly punctate-striate, the interstices convex on the outer disc only.

Length ¾ line.

Head opaque, finely granulate, minutely punctured; frontal tubercles and the carina entirely absent; clypeus separated from the face by a fine transverse groove, which joins the usual lateral grooves near the eyes; antennæ not extending further than the basal third of the elytra, the five lower joints fulvous, the rest black, gradually thickened, the third and the two following joints of equal length; thorax not narrowed in front, more than twice as broad as long, the sides nearly straight, the surface much more strongly punctured than the head; elytra narrowed at the apex, the punctures deep, but not very closely approached, the interstices impunctate, flat, and only costate near the lateral margin.

Hab. GUATEMALA, Quiche Mountains 9000 feet (*Champion*).

To distinguish this species, the punctured head, the absence of the tubercles and carina, and the rather short antennæ, in connection with the transverse thorax, will help

to assist; the anterior legs are of a fulvo-piceous colour, the hinder tibiæ alone being fulvous.

11. Chætocnema laticollis.

Chætocnema laticollis, Baly, Trans. Ent. Soc. 1877, p. 316[1].

Hab. NICARAGUA, Chontales (*Janson*).—? AUSTRALIA [1].

In no way whatever does the type in Mr. Baly's collection differ from the specimens obtained by Janson, and I must therefore conclude that Mr. Baly has been mistaken in the locality of his insects. The thorax in this species is very broad and has a small oblique groove placed on each side of the base. There is absolutely not the slightest difference to be found between the type and the Nicaraguan specimens, but it cannot be supposed that identical species may be found in Central America and Western Australia.

Posterior claw-joint swollen.

a. *Anterior coxal cavities open.*

With this division of the Halticinæ we commence a series of genera which all possess to a greater or less degree the peculiarity of an inflated posterior claw-joint, the "Physapodes" of Illiger or the "Œdionychinæ" of Chapuis. In the first subsection are placed those genera in which the elytra are *not* punctate-striate and the anterior coxal cavities open—the reverse being the case with the "Œdipodes," which have, however, the swollen claw-joint in common. Herr von Harold, in his 'Coleopterologische Hefte,' has endeavoured to define at length and more accurately those genera which fall into the present section, and his explanations concerning them are, in my opinion, very acceptable to the student of this most difficult group. It is of course to be expected that instances occur which set classification almost at defiance, on account of gradual modification of structural characters which do not allow certain forms to be placed, without doubt, in one or another given genus whose stability is rarely questioned by the author at the time. For instance, many species of the "Physapodes" are known to me, described or otherwise, which it would be rash to place in either the genus *Asphæra* (with elongate posterior metatarsus) or in *Œdionychis* (in which the same part is generally short), these species showing intermediate degrees not only in that but in other respects; but in most instances the present classification seems to be the most convenient and rational one.

Species of "Physapodes" have not only been found throughout all parts of North, South, and Central America, but the Old World has likewise contributed to their number, although up to the present time by but a very limited number of species.

ASPHÆRA.

Asphæra, Chevrolat, D'Orbigny, Dict. Hist. Nat. ii. p. 227 (1842); Clark, Journ. of Ent. ii. p. 379 (Nov. 1865); Harold, Col. Hefte, xv. 1876, p. 97.

Litosonycha, Clark, loc. cit.

In *Asphæra*, in opposition to *Œdionychis*, the first joint of the posterior tarsi is proportionately elongate, at least as long as the two following joints together, and the claw-joint is rarely inflated to such a degree as in the allied genus. It is in this genus principally that species are often met with in which the typical characters are modified, and opinions as to the real place of the insect may well be divided. It is therefore often equally difficult to detect in the many descriptions of authors the genus in which, according to the present arrangement, their species should be placed, and frequently impossible to decide without comparison of the types. In the Catalogue of Gemminger and Von Harold most of the described species have been as far as possible arranged in their proper genera; but even here mistakes are not excluded, as *Asphæra cinctipennis*, Chevr., proves, the proper place for which is in the genus *Homophæta*.

1. **Asphæra transversofasciata.** (Tab. XXIII. fig. 7.)

Black; sides of the abdomen flavous; thorax testaceous, the anterior margin black; elytra dark violaceous, the lateral and apical margins and a transverse narrow band across the disc, yellowish-white.

Length 3–3½ lines.

Head black, shining, the vertex impunctate, the sides near the inner margin of the eyes with a few punctures, the frontal tubercles broadly trigonate, and bounded behind by a deep transverse groove; antennæ black, the first joint fulvous below, and shining like the following one, the rest opaque and of equal length; thorax with a broad flattened margin, the anterior angles strongly produced and acute, the sides rounded, the surface more or less finely rugose, pale yellowish or whitish, the anterior margin at the middle and sometimes also the posterior one, black; scutellum broad, black; elytra with a rather large flattened margin, this latter, as well as a regularly shaped straight and narrow transverse band at the middle, flavous, the rest of the surface metallic violaceous-blue, finely punctured; abdomen more or less testaceous or fulvous; legs black, the posterior metatarsus as long as the two following joints united, the claw-joint very moderately swollen.

Hab. Panama, Volcan de Chiriqui (*Champion*).

Nearly one hundred specimens of this species were obtained, amongst which I cannot find any difference of importance. The dark violaceous colour of the elytra, and the want of the posterior sutural pale limb, will distinguish *A. transversofasciata* from *A. nobilitata*, Fabr. The black-coloured centre of the anterior thoracic margin is constant in the species from the State of Panama. This character and the more or less rugosely punctured thorax, in connection with the *narrow*, transverse, pale elytral band and the black underside and legs, will help to distinguish *A. transversofasciata* from other similarly coloured species, notably from *A. ornata*, Illig., which is described as having a broad transverse pale elytral band and impunctate elytra, also a testaceous abdomen.

2. Asphæra lunata.

Galleruca lunata, Fabr. Syst. Eleuth. i. p. 494[1].
Haltica lunata, Illig. Mag. vi. p. 97[2]; Oliv. Ent. vi. p. 683, t. 2. f. 24[3].
Asphæra inclusa, Baly, Trans. Ent. Soc. 1881, p. 57[4].
Œdionychis longicollis, Schauf. Nunq. Otios. ii. 1874, p. 309[5].

Hab. PANAMA, Caldera in Chiriqui (*Champion*).—WEST INDIAN ISLANDS[1 3].—SOUTH AMERICA[2], Colombia[5], Venezuela[4] (*coll. Jacoby*).

Of this species a single individual, which does not differ from the South-American specimens, was obtained in the State of Panama. I have examined the type of *A. inclusa*, Baly, and find it to be identical with *G. lunata*, Fabr.

3. Asphæra xanthocephala.

Asphæra xanthocephala, Harold, Col. Hefte, xv. p. 120 (1876)[1].

Hab. MEXICO[1].

4. Asphæra abdominalis.

Œdionychis abdominalis, Chevr. Col. Mex. Cent. i. 1834, fasc. 3[1].
Œdionychis perforata, Schauf. Nunq. Otios. ii. p. 299[2].

Hab. MEXICO[1], Presidio (*Forrer*), Oaxaca (*Boucard*), Guanajuato, Cordova, Cuerna vaca, La Parada, Orizaba (*Sallé*), Jalapa (*Höge*), San Luis Potosi (*Dr. Palmer*); BRITISH HONDURAS (*Sallé*), R. Sarstoon (*Blancaneaux*); GUATEMALA, San Gerónimo, Capetillo, Purula, Dueñas (*Champion*); NICARAGUA, Chontales (*Janson, Belt*); COSTA RICA (*Van Patten*), Volcan de Irazu (*Rogers*); PANAMA, Volcan de Chiriqui (*Champion*).—COLOMBIA[2]; VENEZUELA (*Göring*).

A. abdominalis is evidently a most abundant species throughout Central America; I have upwards of one hundred specimens before me. Chevrolat has described the species distinctly and at length; I find, however, that the punctuation of the elytra is variable, being in some specimens "coriaceous" and in others more smoothly punctured; the colour, too, varies from dark to lighter blue and even to almost black, and the amount of flavous on the abdomen is equally variable; structural characters of any importance I am not able to find. The Munich catalogue gives as a synonym *A. klugii*, Dej. Specimens so named, formerly in Sturm's collection, and labelled by this author, represent, however, a species of true *Œdionychis*, although identical in coloration with the present insect.

5. Asphæra abbreviata.

Galleruca abbreviata, Fabr. Syst. Eleuth. i. p. 493[1].
Haltica abbreviata, Illig. Mag. vi. p. 134; Latr. Rec. d'Obs. Zool. i. p. 137, t. 15. f. 5 (1811)[2].
Œdionychis ornata, Baly, Ann. & Mag. Nat. Hist. ser. 5, iv. p. 274 (1859)[3].

Hab. British Honduras, Belize (*Blancaneaux*); Guatemala [3], Yzabal (*Sallé*), Chacoj, Panima (*Champion*); Nicaragua, Chontales (*Janson, Belt*); Panama, Caldera, Bugaba, Volcan de Chiriqui (*Champion*).—Colombia [2 3]; Guiana, Cayenne [1].

This handsome species may be known at once by the two transverse bright metallic purplish bands of the elytra, the apices of which are similarly coloured. The vertex of the head is black, the lower portion of the face, with the frontal tubercles, yellowish. The elytral bands are subject to variation in size, and are sometimes much broader than usual, the second band, on the contrary, being reduced to a spot in some specimens.

6. **Asphæra cyanopis.** (Tab. XXIII. fig. 9.)

Asphæra cyanopis, Harold, Col. Hefte, xv. 1876, p. 120 [1].

Hab. Mexico [1], Cordova, Toxpam, Tuxtla, Tepansacualco, Playa Vicente (*Sallé*), Jalapa (*Höge*); Costa Rica (*Van Patten*).

The design of the pale testaceous elytra in this species consists in the typical form of a transverse metallic violaceous basal band and a subquadrate spot of similar colour below the middle of each elytron. In several specimens of a variety before me, the basilar band is divided into two spots, which in a second variety are very small, as well as the posterior one. Constant characters in *A. cyanopis* seem to be the black head and the spot at the apex of the posterior femora. Some specimens from Jalapa have the elytra of a reddish-fulvous colour. A single specimen from the collection of Sturm bears the MS. name of *A. includens*. The reduction of the elytral spots in the variety to a minimum includes the probability of the total disappearance of these spots in others; it is therefore quite possible that *A. polita*, Jac., described here, which I cannot distinguish from *A. cyanopis*, except by the entirely testaceous or fulvous elytra, may be but one of the varieties of the latter species; but having sixteen specimens of that species before me which show no variation, I am obliged to separate them from *A. cyanopis*.

7. **Asphæra clerica.**

Homophœta clerica, Erichs. in Schomb. Reise, 1848, iii. p. 578 [1].
Œdionychis laticollis, Jacoby, P. Z. S. 1880, p. 181 [2].

Hab. Guatemala, Dueñas [2], Capetillo (*Champion*); Panama, Volcan de Chiriqui (*Champion*).—Colombia [1 2] (*coll. Jacoby*).

Erichson's species was overlooked by me at the time of my publication. There is no difference between the Central and South-American specimens. The black band of the thorax occupies the entire disc, leaving the margins only testaceous; the same may be said of the elytra, where the lighter portion divides the dark square-shaped spots into the shape of a narrow cross.

8. **Asphæra semifulva.** (Tab. XXIII. fig. 20.)

Piceous; antennæ dark fulvous; thorax testaceous; elytra impunctate, testaceous, a broad transverse band at the base and another equal or broader band below the middle, fulvous.

Length 3–3½ lines.

Head entirely dark fulvous or piceous, impunctate in the middle, finely punctured round the eyes, the latter not very closely approached, the space between deeply foveolate; antennæ dark fulvous, the fourth joint equal to the third in length in the male, but a little longer in the female; thorax testaceous, entirely impunctate, the sides nearly straight and narrowly margined, and also more or less but not very distinctly flattened, the anterior angles acutely pointed but not produced into a tooth, the posterior margin quite straight; scutellum fulvous; elytra impunctate at the dark portions, extremely minutely punctured at their lighter parts, both the transverse fulvous bands concave on their posterior margins, and produced at the sutural margin, where they end in a point, none of the bands extending quite to the lateral margin; underside and legs entirely piceous; the first joint of the posterior tarsi as long as the two following joints together, the claw-joint moderately swollen.

Hab. Costa Rica (*Van Patten*).

The posterior band of the elytra is sometimes as broad as the anterior one, but both are rather deeply emarginate at their posterior margin, straight at the anterior one, which, together with the dark underside and head and the almost smooth elytra, will help to distinguish the species. *A. wagneri*, Har., differs in the white frontal spot and the testaceous underside, also in the differently shaped elytral bands.

9. **Asphæra marginicollis.**

Greyish or greenish-testaceous; antennæ (the first joint excepted) blackish; thorax impunctate, the posterior margin black; elytra closely punctured and finely rugose.

Length 3 lines.

Head impunctate; the frontal tubercles transverse, distinctly raised and narrow; antennæ black, the first joint pale testaceous; thorax transverse, the sides rounded, the anterior angles produced into a very small tooth, the surface not visibly punctured, the entire posterior margin narrowly black; elytra very closely punctured, the interstices everywhere finely rugose; the first joint of the posterior tarsi as long as or longer than the two following joints united, the claw-joint rather strongly swollen.

Hab. Panama, Bugaba, Caldera in Chiriqui 1200 feet (*Champion*).

The length of the first joint of the posterior tarsi differs in the specimens before me, but is in some so slender that I have placed the species in *Asphæra*, although the shape of the thorax and the rather strongly swollen claw might have justified its inclusion in *Œdionychis*. *A. marginicollis* is of a peculiar greenish-testaceous colour, and may be at once known by the posterior black margin of the thorax. Ten specimens were obtained.

10. **Asphæra nobilitata.**

Galleruca nobilitata, Fabr. Syst. Eleuth. i. p. 492[1].

Chrysomela nobilitata, Hübn. Naturf. xxiv. 41, t. ii. f. 4[2].

Altica nobilitata, Oliv. Ent. vi. p. 684, t. 2. f. 26[3].

Œdionychis discicollis, Schauf. Nunq. Otios. ii. 1874, p. 306[4].

Hab. British Honduras, Belize, R. Hondo, R. Sarstoon (*Blancaneaux*); Guatemala

(*Sallé*), Senahu, Chacoj, Purula, Teleman, Panima (*Champion*); Costa Rica, Cache, Volcan de Irazu (*Rogers*); Panama, Volcan de Chiriqui, Bugaba (*Champion*).—Colombia [4]; Guiana [3], Cayenne [1 2].

A well-known and apparently common species; amongst the numerous examples before me from the above different localities, several varieties are present, one in which the transverse darker band of the thorax is entirely wanting, and another in which the entire upper surface is of a reddish hue, no doubt attributable to discoloration from some cause or other. The elytra in normally coloured specimens are of a pale brownish colour, with a more or less distinct violaceous tint, and interrupted by a transverse narrow white band at the middle; the lateral margin and the posterior part of the suture are also whitish in most specimens; in some instances, however, they remain of the ground-colour.

11. Asphæra chontalensis.

Obscure testaceous; thorax and the posterior femora yellowish-white; tibiæ and tarsi obscure piceous; thorax and elytra impunctate.

Length 3½ lines.

Head impunctate, the vertex dark piceous, the clypeus testaceous; antennæ obscure fulvous, all the joints (with the exception of the second one) of nearly equal length; thorax rather more than twice as broad as long, the sides strongly rounded, the anterior angles produced and thickened, the surface entirely impunctate, of a yellowish-white colour, and shining; scutellum obscure testaceous; elytra of the same colour, with a rather well-marked transverse depression below the base, the latter somewhat raised, the surface not visibly punctured; the breast, tibiæ, and tarsi obscure piceous, the posterior femora pale yellowish; the first joint of the posterior tarsi scarcely as long as the two following joints together, the claw-joint but moderately swollen.

Hab. Nicaragua, Chontales (*Janson*).

There are three specimens of this species before me, which all agree in the above particulars; the metatarsus of the posterior legs, although rather shorter than in most species of this genus, is still longer than in *Œdionychis*, and the not strongly swollen claw-joint shows the place of the insect to be rather in *Asphæra*. *A. chontalensis* may be separated by the nearly white-coloured thorax and posterior femora in connection with the impunctate upper surface.

12. Asphæra polita.

Fulvous or testaceous; head, antennæ, legs (the base of the femora excepted), and part of the breast, black; thorax impunctate; elytra extremely finely punctured.

Length 3 lines.

Head impunctate, entirely black (with the exception of a few punctures near the inner margin of the eyes), with the usual T-shaped grooves between the antennæ; antennæ black, except the extreme base, which is fulvous, half the length of the body, rather robust, the third and fourth joints equal in length; thorax more than twice as broad as long, the anterior and posterior margins parallel and straight, the anterior angles strongly produced in front of the head and thickened, the sides but slightly rounded, the surface entirely impunctate, shining; scutellum black; elytra of the same colour as the thorax, or somewhat darker, their very minute punctuation visible only under a strong lens; underside paler, the base of the

anterior femora fulvous, this colour predominating on the posterior femora, in which the apices only are black; the first joint of the posterior tarsi as long as the two following joints united; prosternum narrow, convex.

Hab. MEXICO, Tuxtla (*Sallé*); GUATEMALA, San Gerónimo, Sinanja, Cahabon, Senahu, Teleman, Tamahu, San Joaquin in Vera Paz (*Champion*).

The colour of the head and legs in connection with the nearly impunctate upper surface, which is constant in the sixteen specimens before me, will assist in the recognition of this species amongst its unicolorous allies; the colour of the elytra in one specimen is testaceous. *A. pallida*, Jac., is much larger and broader, and has the underside and legs black, and the thorax of a different shape. Only a single specimen from Mexico is before me; it differs in no way from the Guatemalan examples.

13. **Asphæra albida.**

Œdionychis albida, Schauf. Nunq. Otios. ii. 1874, p. 304[1].

Hab. NICARAGUA, Chontales (*Janson*); PANAMA, Volcan de Chiriqui (*Champion*).—COLOMBIA[1]; VENEZUELA[1].

In the typically coloured specimens of a pale testaceous colour three narrow white transverse bands interrupt the ground-colour; but in the variety these bands are absent, and the entire insect is of a pale testaceous colour, in which coloration it is not always easy to recognize the species from those similarly unicolorous.

14. **Asphæra pallida.** (Tab. XXIII. fig. 8.)

Asphæra pallida, Jacoby, P. Z. S. 1879, p. 443[1].

Hab. COSTA RICA[1], Volcan de Irazu, Rio Sucio (*Rogers*); PANAMA, Volcan de Chiriqui (*Champion*).

The upper surface of this species varies from pale grey to light brownish or yellowish, the head, scutellum, legs, and antennæ being black, and the abdomen at the apex or at the sides fulvous. The elytra are entirely impunctate, by which character the species may be at once distinguished from *A. balyi*, Clark, and the prosternum in the male (?) is produced posteriorly into a sort of tubercle, also known to exist in some other species of the genus. A single specimen, obtained in Chiriqui by Mr. Champion, differs from the others in having a bright rufous thorax and rather longer antennæ; other differences of importance I am unable to find.

15. **Asphæra nigrofasciata.**

Below piceous; head black or piceous; thorax and elytra flavous, impunctate, the latter with a broad transverse band at the base, and another narrower one behind the middle, black; abdomen testaceous.

Length 3 lines.

Head with a few fine punctures round the inner margin of the eyes; the frontal tubercles strongly raised, obliquely trigonate; antennæ black or dark fulvous; thorax narrowed in front, the anterior angles acutely

produced in front, the sides flattened, the surface impunctate; scutellum black; elytra impunctate, the base slightly raised, the black bands not extending to the lateral margin, the posterior margin of the basal band rather rounded; the first joint of the posterior tarsi as long as the two following joints united, the claw-joint very moderately swollen.

Hab. GUATEMALA, San Gerónimo (*Champion*); COSTA RICA (*Van Patten*).—COLOMBIA, Bogota (*coll. Jacoby*).

Of this species I have three specimens before me which differ in the black or fulvous colour of the head, and in the more or less narrowed posterior band of the elytra, which in one specimen is as broad as the basal one, while in the two others it is reduced to half the width. I must separate the species from several closely allied forms, notably from *A. limitata*, Har., and *A. curialis*, Erichs., by the *black*, not metallic green, colour of the elytral bands and by the testaceous abdomen; this colour in one specimen is confined to the last two segments. *A. civilis*, Illig., seems also closely allied, but differs in the colour of the underside, legs, and also of the elytral bands.

HOMOPHŒTA.

Homophœta, Erichson, Wiegm. Arch. 1847, i. p. 172; Harold, Col. Hefte, xv. 1876, p. 96.

This genus is principally characterized by the white frontal patch of the head, and by the *anteriorly*, but never *laterally*, produced anterior angles of the thorax; the posterior claw-joint is but very moderately swollen. A very limited number of species, often very variable in coloration, are at present known; a single one up till now from Central America.

1. **Homophœta variabilis.** (Tab. XXIII. fig. 2.)

Homophœta variabilis, Jacoby, P. Z. S. 1879, p. 440[1].

Hab. MEXICO[1] (*coll. Jacoby*); PANAMA, Volcan de Chiriqui, David, Caldera 1200 feet, Tolé (*Champion*).—COLOMBIA[1]; VENEZUELA[1] (*coll. Jacoby*); BRAZIL[1].

This is evidently one of the most variable species of *Homophœta*, and one that has most probably been described under different names. In Mr. Baly's collection this species is named *H. personata*, Illig., which may be another of its many varieties. I must refer here to my descriptions of these differently marked forms in the 'Proceedings of the Zoological Society' (*loc. cit.*). All the specimens obtained by Mr. Champion, of which one is figured here, belong to my variety *a*. It is probable that *H. æquatorialis*, Harold, represents one of the varieties described by myself.

2. **Homophœta recticollis.** (Tab. XXIII. fig. 3.)

Œdionychis recticollis, Baly, Ann. & Mag. N. H. ser. 5, i. p. 319[1].
Homophœta militaris, Jacoby, P. Z. S. 1880, p. 172[2].

Hab. Mexico [1], Playa Vicente (*Sallé*); Guatemala, Zapote [2], Capetillo, Volcan de Atitlan, Sinanja, Panima (*Champion*).

The insects described under the above names are identical, as a comparison of the types has proved to me. According to the present classification the species must be placed in *Homophœta* on account of the elongate metatarsus, the little-swollen claw-joint, and simple angles of the thorax.

3. **Homophœta championi.** (Tab. XXIII. fig. 4.)

Obscure testaceous or yellowish-white; antennæ and legs obscure fulvous; thorax and elytra impunctate, the latter with a spot at the base and another below the middle pale brownish.
Length 3–4 lines.

Hab. Costa Rica (*Van Patten*); Panama, Volcan de Chiriqui, Bugaba, Caldera 1200 feet (*Champion*).

At first sight this species seems but to be a pale variety of *H. recticollis*; I have, however, six specimens before me which show constant differences from that species. The colour of the elytra is the same, but the spots are not black but pale brown, and the posterior one is not placed so far back, and forms a narrow transverse band which does not quite extend to either margin. The first joint of the posterior tarsi is shorter than in *H. recticollis*; the thorax is more transverse, but agrees in general shape with *Homophœta*; and the claw-joint is but little swollen.

4. **Homophœta affinis.** (Tab. XXIII. fig. 5.)

Homophœta affinis, Jacoby, P. Z. S. 1880, p. 173 [1].

Hab. Guatemala, Dueñas [1], Capetillo [1], Zapote, San Gerónimo (*Champion*).

Closely allied to *H. recticollis* and *H. championi*, but separated by the position and shape of the anterior elytral spot, which is placed at some distance from the base, and oblique; this is a constant character.

5. **Homophœta albofasciata.** (Tab. XXIII. fig. 1.)

Homophœta albofasciata, Jacoby, P. Z. S. 1879, p. 441.

Hab. Costa Rica (*Van Patten*), Volcan de Irazu (*Rogers*); Panama, Volcan de Chiriqui (*Champion*).

Many specimens: the colour of the elytra varies from metallic blue to black; the central white band is always curved and narrowed at the suture; the reverse is the case with the short apical band, which is narrowed near the lateral margin.

6. **Homophœta æquinoctialis.**

Galleruca æquinoctialis, Fabr. Syst. Eleuth. i. p. 493; Degeer, Mém. Ins. v. p. 356, t. 16. f. 19 [1]; Illig. Magaz. vi. n. 86 [2]; Oliv. Encycl. iv. p. 106 [3].
Galleruca 4-guttata, Fabr. Spec. Ins. i. p. 132; Oliv. l. c. p. 105.

Galleruca 4-notata, Fabr. Suppl. Ent. Syst. 1798, p. 98; Oliv. Ent. vi. p. 682.
Altica fulgida, Oliv. Ent. vi. p. 681, t. 2. f. 21, *a*, *b*.
Altica albicollis, Oliv. Ent. vi. p. 682, t. 2. f. 22; Illig. Magaz. vi. p. 86.
Œdionychis 8-maculata, Crotch, Proc. Acad. Phil. 1873, p. 60[4].

Hab. North America, Texas[4].—Mexico, Jalapa, Oaxaca, Cordova (*Höge*), Tuxtla, Cordova, Teapa, Orizaba, Vera Cruz (*Sallé*); British Honduras, Belize, R. Hondo, R. Sarstoon (*Blancaneaux*); Guatemala, Yzabal (*Sallé*), Teleman, Chacoj, Panima, Tamahu, San Gerónimo, Zapote, Capetillo (*Champion*); Nicaragua, Chontales (*Janson*); Costa Rica, Volcan de Irazu, Cache (*Rogers*); Panama, David, Bugaba, Volcan de Chiriqui, Tolé (*Champion*).—Colombia; Guiana, Cayenne[1 2 3]; Peru.

This is one of the most common, widely distributed, and variable species of the genus; on account of the variation of the elytral spots, it has been described under several different names. To judge from the immense amount of material before me from the above different localities, it is evident that the size of the spots and the ground-colour of the elytra are extremely variable; a small, narrow shoulder-spot is generally, though not always, present. Three specimens of a variety from Teapa have the elytral spots greatly enlarged so as to leave but very narrow dark bands between them; the underside, with the exception of the fulvous abdomen, black; this form seems to be rare.

Œdionychis 8-maculata, Crotch, from Texas, is, according to the description, identical with the present species.

7. **Homophœta cinctipennis.** (Tab. XXIII. fig. 6.)

Œdionychis cinctipennis, Chevr. Col. Mex. Cent. i. 1834, fasc. 3. no. 86[1].
Asphæra cinctipennis, Gemm. & Har. Cat. xii. p. 3524.

Hab. Mexico[1], Puebla, Tuxpan (*Sallé*), Oaxaca, Cordova (*Höge*).

The white frontal patch, shape of the thorax, and the but moderately swollen claw-joint show that this species must be placed in *Homophœta*. The elytra in several specimens before me are of a yellowish-white colour, with a narrow black sutural and lateral margin, and with or without a similarly coloured shoulder-spot; anteriorly the sutural black line shows generally a slight dilatation before the middle (which may assume a cruciform-shape, according to Chevrolat); the thorax is either of a reddish-fulvous or yellowish colour.

ŒDIONYCHIS.

Œdionychis, Latreille, Cuv. Règn. Anim. 1829, v. p. 154; Harold, Col. Hefte, xv. 1876, p. 96.

The short metatarsus of the hind legs, the very strongly swollen or subglobular claw-joint, and the flattened sides of the thorax constitute a number of characters which make it comparatively easy to recognize the present genus. Now and then, however, forms are met with which can only be doubtfully placed in *Asphæra* or *Œdionychis*, on account of

the above-mentioned structural peculiarities sometimes showing considerable modification; in fact the same difficulties are encountered here in separating the genera as the species. The species are often so extremely variable, not only in the colour and pattern of the elytra, but also in structure, that there is no doubt many species have been described which will eventually turn out to be nothing but varieties; but to settle this point a great number of specimens from the same localities are necessary, and for the sexes to be taken notice of at their place of capture, where opportunity offers. Species of *Œdionychis* are not confined to the New World only, but have been obtained in India and other places in the east. South America is, however, their metropolis, and nearly 200 species are now known. A good monograph of the genus is much needed.

† *Elytra entirely metallic blue or black, with or without a flavous margin.*
(Species 1 to 17.)

1. Œdionychis reichei. (Tab. XXIII. fig. 11.)

Œdionychis reichei, Harold, Col. Hefte, xv. 1876, p. 121[1].

Hab. Mexico[1], Cordova, Orizaba, Oaxaca (*Sallé*), Cerro de Plumas, Oaxaca (*Höge*); British Honduras, R. Sarstoon (*Blancaneaux*); Guatemala, Purula, San Gerónimo, Zapote (*Champion*); Costa Rica (*Van Patten*), Volcan de Irazu (*Rogers*); Panama, David, Volcan de Chiriqui, Bugaba (*Champion*).

Apparently a common species, to judge from the numbers received from Mexico and the State of Panama. The abdomen in *Œ. reichei* is entirely flavous; the elytra are black (sometimes bluish), shining, and impunctate.

2. Œdionychis ceracollis.

Altica ceracollis, Say, Bost. Journ. i. 1835, p. 200[1]; Leconte, Complete Writings of Thomas Say, ii. p. 669.

Œdionychis luteicollis, Chev. Dej. Cat. 3rd ed. p. 408[2].

Hab. Mexico[1 2], Ciudad in Durango (*Forrer*), Cordova, Tuxtla, Playa Vicente, Santecomapan (*Sallé*), Cordova, Jalapa (*Höge*); British Honduras, R. Hondo, R. Sarstoon (*Blancaneaux*); Guatemala, Capetillo, Dueñas, Zapote (*Champion*).

In this species the entire underside, the thorax, and the femora are pale fulvous or testaceous, the elytra generally violaceous, sometimes dark metallic blue, and extremely finely punctured; the tibiæ and tarsi as well as the vertex of the head are blackish; the three lower joints of the antennæ are testaceous, either entirely or beneath only; the anterior angles of the thorax are mucronate in the female, scarcely so in the male insect. Say has referred this species to *Disonycha collaris*, Fabr., with which it has nothing in common, except the colour. I refer the Guatemalan specimens obtained by Mr. Champion to the present species, but the elytra are more evidently and closely punctured than in those from Mexico, and the underside is sometimes piceous;

it is therefore doubtful whether the following species is specifically distinct from *Œ. ceracollis*.

3. Œdionychis mexicana.

Œdionychis mexicana, Harold, Col. Hefte, xv. 1876, p. 121[1].

Hab. MEXICO[1], Oaxaca, Cuernavaca, Durasnal, Peras (*Sallé*).

Differing from the preceding species in having the breast black and the thoracic angles not mucronate.

4. Œdionychis icteridera. (Tab. XXIII. fig. 12.)

Œdionychis icteridera, Harold, Col. Hefte, xv. 1876, p. 122[1]; Chevr. Dej. Cat. 3rd edit. p. 408.

Hab. MEXICO[1], Etla, Durasnal, Oaxaca (*Sallé*), Jalapa (*Höge*); GUATEMALA, Aceytuno (*Salvin*).

According to Von Harold *Œ. icteridera* differs from *Œ. mexicana* in the mucronate anterior angles of the thorax and the smooth elytra. In *Œ. mexicana* the *entire* abdomen is testaceous, this colour being confined to the apex and sides only in the allied species. I have, however, specimens before me which may be referred to either species; the mucronate thorax does not seem to be a constant character; nor is the punctuation of the elytra always the same, as specimens occur extremely finely punctured, and others smooth, which are, however, wanting in the other characters supposed to belong to them. I therefore much doubt the specific distinction of the two insects. Two specimens obtained in Guatemala by Mr. Salvin have the elytra more distinctly punctured, but agree in other respects; the specimens obtained by Herr Höge are of a more greenish tint, and the amount of piceous on the underside is very variable.

5. Œdionychis acutangulus. (Tab. XXIV. fig. 2.)

Fulvous; the anterior angles of the thorax strongly produced, the disc impunctate; elytra violaceous-blue, finely punctured; tibiæ obscure piceous.

Length 4–5 lines.

Head entirely fulvous, with a few fine punctures, the frontal tubercles bounded behind by a deep groove; antennæ half the length of the body, black, the three first joints fulvous, the third and fourth joints equal in length; thorax about three times as broad as long, the sides strongly rounded, flattened in front of the lateral margin, the anterior angles produced into a rather long and acute tooth, directed outwards, the surface impunctate; scutellum black; elytra scarcely widened behind the middle, dark metallic blue, the punctuation fine, rather close, but not confluent; underside and legs fulvous, the tibiæ slightly darker.

Hab. MEXICO, Cuernavaca (*Sallé*); GUATEMALA (*coll. Jacoby*).

This is a species of large size, and although closely allied to *Œ. icteridera* and *Œ. mexicana*, evidently quite distinct therefrom by the entirely fulvous head and the very strongly dentate anterior angles of the thorax, which is especially evident in the Guatemalan specimen. The punctures of the elytra are also very fine and well separated, the interstices being flat.

6. Œdionychis frontalis. (Tab. XXIII. fig. 14.)

Oblong, parallel, fulvous; antennæ black, short; vertex of the head metallic green; thorax impunctate; elytra metallic green, extremely finely and closely punctured.

Length $2\frac{1}{2}$–3 lines.

Head closely and distinctly punctured near the inner margin of the eyes, metallic dark green, the frontal tubercles and the clypeus fulvous; antennæ not extending much further than the base of the thorax, all the joints short and subtriangular; thorax transverse, dark fulvous, the sides slightly rounded, the anterior angles acute, but not mucronate, the surface impunctate, the sides slightly swollen before the margin; scutellum black; elytra dark green, very minutely and closely punctured; underside fulvous, the anterior legs sometimes piceous, the metasternum black.

Hab. GUATEMALA, near the city (*Champion*), Yzabal (*Sallé*).

Three specimens. This species is not difficult to recognize, on account of the short antennæ, the colour of the clypeus and tubercles in connection with the almost rugosely punctured sides of the head, and the finely punctured elytra.

7. Œdionychis forreri.

Oblong, black; thorax, femora, and the two last abdominal segments, fulvous; anterior angles of the thorax not produced; elytra green, subopaque, semirugose-punctate.

Length $3\frac{1}{2}$ lines.

Head entirely black, impunctate, with the exception of a few punctures near the eyes; palpi and antennæ black, the fourth joint of the latter longer than the preceding joint; thorax impunctate, fulvous, not more than two and a half times broader than long, the sides very narrowly flattened, the anterior angles blunt and not produced; scutellum piceous; elytra not much widened behind, closely semirugose-punctate; underside, the tibiæ and tarsi, black; the femora and the last two abdominal segments, fulvous.

Hab. MEXICO, Ciudad in Durango 8100 feet (*Forrer*).

A single specimen, distinguished by the shape of the thorax in connection with the general coloration. This species may be known from *Œ. mexicana* by the rugosely punctured elytra and generally more elongate shape.

8. Œdionychis modesta.

Oblong-ovate, subdepressed, black; above dark blue, green, or brownish, subopaque, or moderately shining, scarcely visibly punctured.

Length 2–$2\frac{1}{2}$ lines.

Head strongly and rugosely punctured between the eyes, without any frontal elevations, but with a short central groove; antennæ black, short, the joints rather broader than long; thorax with the sides nearly straight, narrowly margined but not flattened, the posterior margin distinctly oblique at the sides, the disc very minutely punctured when examined under a strong lens; scutellum broader than long, its apex rounded; elytra very slightly convex, scarcely visibly punctured; underside and legs black, with a slight metallic tint; posterior claw-joint very strongly swollen.

Hab. MEXICO, Hacienda de Bleados, San Luis Potosi (*Dr. Palmer*), Pinos Altos in Chihuahua (*Buchan-Hepburn*), Jalapa (*Höge*), Silao, Puebla, La Parada, Tepansacualco (*Sallé*).

It is possible that this species is but a variety of *Œ. lugens*, Leconte, from New Mexico; but this author speaks of pale abdominal segments, and a not sinuate posterior thoracic margin. In *Œ. modesta* the thorax is very distinctly obliquely shaped on each side

like a species of *Disonycha*, and the abdominal segments are entirely black; the colour of the upperside is very variable, and either metallic or entirely opaque; but as I cannot find any other differences whatever, I must conclude all these forms to represent the same species. In Mr. Baly's collection the same species is labelled *Œ. arctica*, Baly, with the locality "Arctic America," but I cannot find any species published under this name. *Œ. concinna*, Fabr., seems also very closely allied, but differs in the fulvous colour of some of the abdominal segments; *Œ. violascens*, Leconte, from Fort Tejon, is again closely allied, but is described as having closely and distinctly punctured elytra.

9. Œdionychis semipurpurea.

Bluish-black; head and thorax greenish, the former rugosely, the latter finely, punctured; elytra punctured like the thorax, the disc cupreous, the lateral margin purplish.

Length 3 lines.

Head strongly rugose, leaving only a small central space smooth and impunctate; antennæ short, of the same shape as in *Œ. modesta*; thorax also as in *Œ. modesta*, but the surface entirely covered with small and large punctures; scutellum broader than long; elytra entirely punctured like the thorax, the punctuation somewhat stronger at the sides than at the disc, the latter of a brownish-cupreous colour, the lateral margin bluish or purplish, this colour widening greatly towards the apex.

Hab. Mexico, Chalchicomula (*Sallé*). A single specimen.

Œ. semipurpurea so much resembles in its general shape *Œ. modesta*, that I am inclined to regard it as another variety of the latter; but the much more strongly and rugosely punctured head and the very close and distinct punctuation of the upper surface differs from the sculpturing of *Œ. modesta*, in which the elytra are scarcely visibly punctured.

10. Œdionychis dugesi. (Tab. XXIV. fig. 12.)

Fulvous; base of the head, antennæ, anterior legs, and the breast, black; thorax fulvous, with five spots; elytra green or blue, subopaque, minutely punctured, the lateral margin narrowly fulvous.

Length 3 lines.

Head rugosely punctured near the eyes, its base greenish black, a frontal patch and the clypeus flavous; antennæ short, scarcely extending beyond the first third of the elytra, the joints rather robust and short; thorax narrow, the sides slightly rounded, narrowly flattened, the anterior angles thickened but scarcely produced, the surface very minutely punctured (when seen under a strong lens), fulvous, with five black spots (2, 3) placed transversely; scutellum black; elytra not more strongly punctured than the thorax, rather opaque, greenish or bluish, the extreme lateral margin and their epipleuræ reddish fulvous; posterior femora reddish fulvous, the rest of the legs and the breast black; abdomen testaceous at the sides.

Hab. Mexico, Silao (*Sallé*).

The two specimens before me do not differ from each other; *Œ. dugesi* may be known from *Œ. flavocyanea*, Crotch, and a few other similarly coloured species, by the fulvous middle portion of the head, the five-spotted thorax, and the colour of the underside.

11. Œdionychis purulensis. (Tab. XXIV. fig. 3.)

Fulvous; head and antennæ black; thorax flavous; elytra finely punctured, violaceous blue, the extreme apices fulvous; tibiæ and tarsi piceous.

Length 3–3¼ lines.

Head impunctate, deeply transversely grooved between the antennæ; antennæ entirely black, the intermediate joints slightly dilated; thorax three times as broad as long, narrow, pale flavous, the sides rounded and moderately flattened, the anterior angles not greatly produced but thickened, the surface entirely impunctate, shining; scutellum obscure piceous; elytra rather widened and convex posteriorly, finely and closely punctured, metallic violaceous blue, their extreme apices in the shape of a narrow triangular flavous or fulvous spot; underside and femora fulvous or flavous; tibiæ and tarsi nearly black.

Hab. GUATEMALA, Purula (*Champion*).

There is scarcely any difference, except in size, between the five specimens obtained. *Œ. purulensis* differs from *Œ. extrema*, Harold, by the absence of the flavous elytral margin.

12. Œdionychis högei.

Fulvous; antennæ and tarsi fuscous or black; elytra violaceous blue, the extreme apices flavous.
Length 3 lines.
Head impunctate; the two or three basal joints of the antennæ fulvous, the rest fuscous; thorax impunctate; elytra finely and closely punctured.

Hab. MEXICO, Jalapa, Oaxaca (*Höge*), Cordova (*Höge, Sallé*).

Whether this species is really distinct from *Œ. purulensis* or only a local variety I am not able to decide, as no intermediately coloured specimens are before me; those from the above localities, to the number of six, all differ from the allied species in the fulvous head, thorax, and tibiæ, and in the similarly coloured basal joints of the antennæ. *Œ. högei* is therefore probably specifically distinct from *Œ. purulensis*, with which it agrees, however, in all other respects.

13. Œdionychis extrema.

Œdionychis extrema, Harold, Deutsche ent. Zeitschr. 1880, p. 221[1].

Hab. MEXICO [1], Tuxtla (*Sallé*).

The colour of the elytra in this species varies from blue to nearly black, and the testaceous apical spot is either isolated or connected with the similarly coloured narrow lateral margin; the colour of the latter separates *Œ. extrema* from *Œ. högei* and *Œ. purulensis*. A closely allied species, but with the underside *black*, the *Œ. beskii* of Clark's Catalogue, is found in Brazil. A specimen so named by this author is contained in the Baly collection from the latter locality; another one from the same country I possess, so that the locality "Mexico," as given by Clark, seems erroneous.

14. Œdionychis lateralis.

Light fulvous below; thorax testaceous, with some obscure fulvous spots; elytra closely and distinctly punctured, metallic blue or black, their extreme lateral margin and their apices fulvous.
Length 3–4 lines.
Head entirely fulvous, with a few deep punctures near the inner margin of the eyes; antennæ black, the first three joints fulvous; thorax narrowly transverse, the anterior angles produced into a blunt tooth, the disc impunctate and obscurely stained with dark fulvous spots, assuming the shape of a V at the middle; elytra extremely closely and subrugosely punctate, the fulvous lateral margin very narrow, but widened at

the apex; the first joint of the posterior tarsi very short, the claw-joint strongly swollen; the anterior tarsi, together with the apices of the tibiæ, fuscous or black.

Hab. Mexico, Oaxaca, Etla (*Sallé*).

The entirely fulvous head, obscurely spotted thorax, and subrugose surface of the elytra distinguish *Œ. lateralis* from *Œ. extrema*; the flavous margin of the elytra separates it from *Œ. högei*.

15. **Œdionychis antennalis.** (Tab. XXIV. fig. 4.)

Ovate, obscure testaceous; the vertex greenish æneous; antennæ black, the first three joints testaceous, the basal joint produced and tooth-like; elytra metallic purplish, the lateral margin flavous, the surface closely punctured.

Length 3 lines.

Head entirely impunctate, flavous, the base greenish æneous; antennæ half the length of the body, the upper margin of the first joint projecting into a point; thorax impunctate, testaceous, the sides broadly flattened, the anterior angles acutely mucronate; scutellum obscure flavous; elytra closely and distinctly punctured, with an obsolete transverse depression below the base, of a bright metallic purplish-violaceous colour, the lateral margin and the apices flavous; underside obscure testaceous, the tarsi and claws darker, as well as (in one specimen) the abdomen.

Hab. Panama, Volcan de Chiriqui (*Champion*).

Of shorter and more rounded shape than the other similarly coloured species, and to be separated from them by the shape of the basal joint of the antennæ.

16. **Œdionychis limbatipennis.** (Tab. XXIV. fig. 1.)

Broadly ovate, flavous; antennæ fuscous; elytra closely punctured, metallic bluish violaceous, the lateral margin obscure testaceous.

Length 5 lines.

Head with a few punctures placed transversely between the eyes, the frontal tubercles indistinct and bounded behind by a shallow fovea; antennæ slender, the joints elongate, of nearly equal length, with the exception of the second, the three lower joints flavous, the rest fuscous or black; thorax nearly three times as broad as long, the anterior angles produced into a short blunt tooth, the sides rather broadly flattened, the surface with a few very fine punctures; scutellum obscure flavous; elytra widened towards the middle, very closely and distinctly punctured, of a metallic purplish-blue colour, the lateral margin and the epipleuræ flavous; underside and legs flavous; the first joint of the posterior tarsi slightly larger than the second; posterior claw-joint strongly swollen, piceous.

Hab. Panama, Bugaba (*Champion*).

One of the largest species of the genus described here; the testaceous colour of the margin widens somewhat near the apices of the elytra, which have a decided purplish tint, and assume their greatest width at the middle. Four specimens were obtained.

17. **Œdionychis gemmata.**

Broadly subquadrate-ovate, testaceous; head, antennæ, and the apices of the tibiæ, black; elytra very minutely punctured, metallic purplish.

Length $4\frac{1}{2}$–5 lines.

Head black, impunctate, the frontal tubercles very obsolete, the labrum testaceous; antennæ black, the first two joints testaceous below; thorax more than three times as broad as long, pale yellowish white, the

sides strongly rounded and narrowed in front, the anterior angles tuberculate, the surface impunctate, the posterior margin perfectly straight; scutellum black; elytra widened towards the apex, closely and very finely punctured, of a metallic purplish colour, with a green or violet shade; underside and legs testaceous, the extreme apices of the tibiæ and the tarsi blackish.

Hab. PANAMA (*Boucard*).

This species is squarer in shape than its allies; the greatest width of the elytra is below the middle; the black head and very fine punctuation, as well as the bright purplish colour of the elytra and the flavous thorax, separate *Œ. gemmata* from the preceding species, with which it agrees in size.

†† *Elytra for the most part with longitudinal bands or stripes.* (Species 18–33.)

18. Œdionychis quadrilineata. (Tab. XXIV. fig. 13.)

Œdionychis quadrilineata, Harold, Berl. ent. Zeitschr. 1881, p. 126 [1].

Hab. MEXICO [1] (*Sallé*).

Two specimens from the collection of Sturm, and labelled as above by this author, are before me; they prove the correctness of Von Harold's description.

19. Œdionychis virgata.

Œdionychis virgata, Harold, Deutsche ent. Zeitschr. 1880, p. 222 [1]; Berl. ent. Zeitschr. 1881, p. 130 [2].

Hab. MEXICO [1 2], Pinos Altos in Chihuahua (*Buchan-Hepburn*), Cordova, Yolos, Panistlahuaca, Puebla, Oaxaca (*Sallé*), Jalapa (*Höge*).

In this species the elytral bands are very narrow and sometimes of a bluish colour, and the lateral band is placed close to the margin; the epipleuræ remain testaceous at their outer portion, but are black at the inner parts. It is impossible to say whether all the specimens from the above localities really represent varieties of one and the same species, varying as they do rather considerably in size, shape, and occasionally in the width of the elytral bands. To separate them on slight differences would but have added to the difficulties of determining the numerous closely allied forms; and as all the Mexican specimens agree very nearly or entirely with the description of *Œ. virgata*, Harold, I believe I am right in referring them to that species.

20. Œdionychis chevrolati. (Tab. XXIV. fig. 15.)

Œdionychis chevrolatii, Baly, Ann. & Mag. Nat. Hist. 5th ser. i. 1878, p. 322 [1].
Œdionychis quinque-vittata, Jacoby, P. Z. S. 1880, p. 174 [2].

Hab. MEXICO [1]; BRITISH HONDURAS [2], R. Sarstoon (*Blancaneaux*); GUATEMALA (*Sallé*).

The description of this species requires some correction, which I am enabled to make, having the type before me for examination. Mr. Baly gives the length of the

second and third joints of the antennæ as nearly equal; the latter is, however, at least one half longer than the second joint, as is the case with nearly all the species of the genus before me. From *Œ. virgata* the present species differs in the entirely black head, with the exception of the frontal elevations, which are testaceous; in the nearly black underside and entirely black legs, and in the position and shape of the marginal black vitta of the elytra—the marginal vitta in *Œ. chevrolati* being placed close to the lateral margin, leaving the *anterior* portion of it, as well as the elytral epipleuræ, testaceous, and after extending round the apex uniting with the sutural band; whilst in *Œ. virgata* the lateral black band is placed further from the lateral margin and does not join the sutural vitta. After comparing Mr. Baly's type with that of *Œ. quinquevittata*, Jac., I find that, although the latter differs in the much narrower elytral stripes, which resemble those of *Œ. virgata*, yet it agrees so closely in all other respects that it would not be wise to look upon it as anything else but a variety; the colour of the underside and legs, as well as that of the head, also agree with Baly's species. In the species from Guatemala the legs and underside are dark fulvous, while the other characters agree with the type.

21. Œdionychis ornata. (Tab. XXIV. fig. 16.)

Œdionychis ornata, Jacoby, P. Z. S. 1880, p. 174[1].

Hab. Guatemala, Capetillo[1] (*Champion*).

This species approaches *Œ. chevrolati* in the position of the elytral bands, the outer and sutural ones being joined at the apex; these bands, however, are very narrow and regular, and leave no trace of a yellow elytral margin; the latter, as well as the epipleuræ, are entirely of a bluish colour. *Œ. ornata* is of a very convex shape, but varies in size; all the specimens have a small piceous spot on the vertex (the latter being generally of a more reddish-fulvous colour), and the thorax seven or five more or less distinct piceous small spots; the antennæ have the third and fourth joints of nearly equal length; the shape of *Œ. ornata* is quite different from that of *Œ. quadrilineata*, being very convex instead of flattened.

22. Œdionychis inconstans.

Œdionychis inconstans, Schauf. Nunq. Otios. ii. 1874, p. 297[1]; Harold, Berl. ent. Zeitschr. 1881, p. 150[2].

Hab. Panama (*Boucard*).—Colombia[1 2].

A specimen from Panama before me does not differ from the Colombian insects in my collection; the size is small and the discoidal band of the elytra double the width of the sutural one. Von Harold has given a renewed description of this species, to which I must here refer.

23. Œdionychis circumcincta?

Œdionychis circumcincta, Crotch, Proc. Ac. Phil. 1873, p. 62[1].

Hab. North America, Southern States[1].—Mexico, Oaxaca (*Boucard, Höge*), La Parada (*Sallé*).

Rather than describe the Mexican specimens before me as new I prefer to identify them with the species of Crotch, with whose description they nearly agree. The head is rugosely punctate throughout, black, with two more or less distinct rufous spots on the vertex. The thorax is finely and closely punctured and has a small blackish spot on the middle of the disc; the posterior angles are produced into a blunt tooth. Of the elytral black bands, the one on the disc is broad; while the sutural and lateral bands are narrow, the former extends to the apex, the lateral and central ones are abbreviated behind; the elytra are closely and distinctly punctured, their epipleuræ are of the ground-colour, and the lateral band is placed close to the lateral margin. The underside and legs are black. Without seeing the type of *Œ. circumcincta* it is impossible to say whether the Mexican insects are identical with it or not. *Œ. patruelis*, Harold, is evidently exceedingly closely allied, and might possibly be another variety of the present species.

24. Œdionychis trilineata.

Black; above testaceous; head rugose-punctate; thorax shining, impunctate, with a transverse black band; elytra closely punctured, a narrow sutural, a broader submarginal, and another discoidal longitudinal band, greenish or bluish-black.

Length 3 lines.

Hab. Mexico (*Sallé*), Ciudad in Durango (*Forrer*).

I am again obliged to separate this species from the many similarly coloured allied forms, the descriptions of which, mostly published by Von Harold, do not agree sufficiently to include the present species of *Œdionychis*. *Œ. trilineata* seems to be most nearly allied to the North American *Œ. petaurista*, from which it differs in the entirely black underside, legs, and head, the impunctate thorax, and by the elytral bands being of the same length (the inner band in *Œ. petaurista* is always shorter than the lateral one). In *Œ. trilineata* the anterior angles of the thorax are produced into a tooth, the lateral band of the elytra is not placed so close to the lateral margin (as is the case in *Œ. petaurista* and several other species), and the elytral epipleuræ are entirely yellow. The two specimens before me do not quite agree with each other in the punctuation of the elytra, which in one is extremely close or granulate, and in the other finer and more scattered; the thorax in both has its sides strongly rounded anteriorly, but straight at the base; and the elytral bands in one specimen are more widely separated than in the other, but their shape and position is the same. The specimen in M. Sallé's collection bears the label *Œ. trilineata*, Sturm, in that author's handwriting, which name I have retained. Unless many specimens from the same localities can be obtained for exami-

nation, the specific value of these most variable insects is difficult to settle, but an accurate description of differences to be noticed in even the single individuals will assist later for their proper classification when the amount of variation is better understood.

25. **Œdionychis infirma.** (Tab. XXIII. fig. 10.)

Elongate, pale flavous; antennæ (the first two joints excepted) black; head and thorax impunctate; elytra very finely punctured, the lateral margin, a broad subsutural, and a narrow discoidal longitudinal band, pale ferrugineous.

Length 4–4½ lines.

Head with a few very fine punctures near the eyes, the latter widely separated, the rest of the surface impunctate, the frontal elevations very obsolete; antennæ extending to half the length of the elytra, black, the first two joints fulvous, the third and fourth joints of equal length; thorax not much more than twice as broad as long, the sides rather regularly rounded, flattened, and bounded inwards by a deep groove, the anterior angles thickened, produced in front, but without any trace of a tooth, the posterior margin somewhat rounded, the surface impunctate; scutellum flavous; elytra with two yellowish-brown bands, which are abbreviated anteriorly and posteriorly, but join at their posterior ends, the first band, placed close to the suture, is double the width of the second, which is placed at the middle of the disc, the lateral margin is of a similar colour to, and of the same width as, the second band; the underside and legs flavous, or the latter fulvous, the extreme apices of the tibiæ and the tarsi piceous.

Hab. Mexico, Cerro de Plumas, Jalapa (*Höge*), Juquila (*Sallé*).

Allied in shape and pattern to *Œ. umbratica*, Oliv., *Œ. 4-vittata*, Baly, and *Œ. inconstans*, Harold. From the two first this species is distinguished by having two (instead of one) elytral bands, which are also differently placed and shaped; and from *Œ. inconstans* by the pale colour of the head and body, the want of the sutural band, and the finer punctuation of the elytra, as well as by the black antennæ. The elytral bands in some specimens are nearly obsolete.

26. **Œdionychis inconspicua.**

Elongate, pale testaceous; antennæ, the scutellum, the outside of the tibiæ, and the tarsi, black; head distinctly punctured; thorax impunctate; elytra very finely punctured, testaceous, sometimes with narrow longitudinal whitish stripes.

Length 4 lines.

Hab. Mexico, Ventanas, Ciudad in Durango (*Forrer*).

Of the same shape as the preceding species, but differing in the very distinctly punctured head, the frontal elevations well raised and bounded behind by a transverse deep groove, the black and shorter antennæ, and the black scutellum, as well as by the colour of the outer side of the tibiæ, which is also black. The thorax has the anterior angles produced into a short tooth, which is not the case in *Œ. infirma*, and elytral bands are altogether absent.

27. **Œdionychis longicollis.** (Tab. XXIV. fig. 20.)

Elongate, pale testaceous; antennæ (the three basal joints excepted), the outside of the tibiæ, and the tarsi,

black; scutellum piceous; thorax one and a half times broader than long; elytra scarcely visibly punctured.
Length 4 lines.

Hab. MEXICO, Cerro de Plumas (*Höge*).

The single specimen obtained is again closely allied to the two preceding species, but differs so totally in the shape of the thorax that I am obliged to separate it; the latter is less than twice as broad as long, and the sides are nearly perfectly straight, while the anterior angles are like those of *Œ. infirma*; the legs are coloured like those of *Œ. inconspicua*, from which it differs again in the totally different shape of the thorax and the absence of anterior teeth. The species must be considered as an intermediate form, but in the absence of other specimens a definite conclusion cannot be formed as to its specific distinction.

28. **Œdionychis sublineata.** (Tab. XXIV. fig. 7.)

Testaceous; joints 6–8 of the antennæ fuscous; elytra finely punctured, a narrow, short, and straight longitudinal stripe at the middle of the base, a slightly curved band from the shoulder to near the apex, and the suture, dark fulvous.
Length 2–3 lines.

Hab. MEXICO, Cordova, Playa Vicente (*Sallé*), Jalapa (*Höge*); BRITISH HONDURAS, Belize, R. Hondo (*Blancaneaux*); GUATEMALA, San Gerónimo, Panzos (*Champion*); NICARAGUA, Chontales (*Belt, Janson*); PANAMA, Volcan de Chiriqui (*Champion*).

Closely allied to *Œ. longicollis*, but differing in the want of the elytral posterior discoidal band and in the *straight*, not oblique, short basal stripe; the longitudinal lateral band is much further removed from the lateral margin than in *Œ. oculata*; lastly, the antennæ in the present species have the intermediate joints dark, which is especially to be noticed in specimens from British Honduras. The name of the species is a MS. one given to it by Chevrolat. Thirty-five specimens are before me.

29. **Œdionychis oculata?** (Tab. XXIV. fig. 6.)

Galleruca oculata, Fabr. Syst. Eleuth. i. p. 496[1].
Haltica oculata, Illig. Mag. vi. 1807, p. 100[2].
Haltica humeralis, var. 6, Illig. Mag. vi. p. 101[3].

Hab. PANAMA, Volcan de Chiriqui, Bugaba, Caldera (*Champion*).—SOUTH AMERICA[123].

I refer provisionally the Central American specimens to the species of Fabricius and Illiger, as they agree very nearly with a specimen kindly lent me for examination by the Berlin Museum, and named, I believe, by Illiger himself. I have not at the present moment this specimen before me, but a figure of it taken by myself seems to differ in regard to the elytral markings in having an elongate ring-like brown mark placed at the posterior half of each elytron. In the specimens from the State of Panama the design of the elytra consists of a short oblique ferrugineous stripe at the middle of the base

directed inwards, a lateral and sutural narrow stripe, and an arcuate band, abbreviated in front and behind, at the posterior portion of each elytron; all these bands are very narrow, and if the posterior one is fancied joining the sublateral band at each end, the ring-like shape of the type would be produced. The entire insect is of a testaceous colour, the third and fourth joints of the antennæ are of equal length, the thorax has the anterior angles not produced and is impunctate, the elytra have a distinct flattened margin and are finely punctured, the head is impunctate, and the eyes are closely approached.

30. **Œdionychis seriata.** (Tab. XXIV. fig. 10.)

Œdionychis seriata, Baly, Ann. & Mag. Nat. Hist. 5th ser. ii. 1878, p. 225[1].
Œdionychis familiaris, Harold, Berl. ent. Zeitschr. 1881, p. 130[2].

Hab. Mexico[2], Cerro de Plumas (*Höge*), Cordova, Orizaba, Tehuantepec (*Sallé*); Guatemala[1] (*coll. Baly, Jacoby*), San Gerónimo (*Champion*).

Although I have not seen the type of *Œ. familiaris*, the description given by Von Harold of that species agrees so closely with the insect in Mr. Baly's collection that I have no doubt about their identity. In the Mexican specimens each elytron has eight black spots, placed in two longitudinal rows (one discoidal, the other marginal); in a specimen from Guatemala the spots are reduced to six, and those at the margin are nearly joined; the head in the latter insect is black behind, testaceous in front, while the Mexican specimens have an entirely pale fulvous head, thus showing that no reliance can be placed on colour only as a distinctive character in the species of this genus.

31. **Œdionychis wagneri.**

Œdionychis wagneri, Harold, Berl. ent. Zeitschr. 1881, p. 144[1].

Hab. Costa Rica[1].

32. **Œdionychis discoidea.** (Tab. XXIV. fig. 11.)

Ovate, convex, fulvous; thorax testaceous, impunctate; elytra distinctly punctured, flavous, the suture and six elongate spots (placed longitudinally on each elytron) fulvous.

Length 3 lines.

Head impunctate at the vertex, the space between the eyes narrow, the latter large, the lower part of the face testaceous; antennæ entirely fulvous, the third joint distinctly shorter than the fourth; thorax with the anterior and posterior margins straight, the sides rounded towards the apex only, straight at the base, the anterior angles produced into a short tooth; scutellum dark fulvous; elytra convex, nearly parallel, closely punctured, the punctuation more distinct anteriorly, a sutural band, constricted at and below the middle, two elongate short stripes at the base, two below the middle, and two small spots near the apex, fulvous; underside and legs fulvous.

Hab. Panama, Bugaba (*Champion*).

There is only a single specimen of this species before me, and it is possible that it may be a variety of one or other of the species described by Von Harold, although in the pattern of the elytra it approaches *Œ. seriata.*

33. Œdionychis gracilis. (Tab. XXIV. fig. 14.)

Below fulvous; base of the head greenish-æneous; antennæ fuscous; thorax testaceous; elytra metallic green, a longitudinal subsutural band and the extreme lateral margin pale testaceous, the surface nearly impunctate.

Var. a. The lateral margin of the ground-colour.

Var. b. Elytra entirely metallic green.

Length 2–2½ lines.

Head rugosely punctured near the eyes, the middle portion and the clypeus fulvous; antennæ short, black, the three basal joints testaceous at their base; thorax narrow, somewhat depressed on the middle of the disc, the lateral margin scarcely rounded, the anterior angles pointed, but not produced into a tooth, the posterior margin nearly straight, the surface uneven and with a few very fine punctures, testaceous; scutellum black; elytra somewhat depressed, of a silky or finely alutaceous appearance, sometimes with a few fine punctures, light green, a narrow stripe near the suture from the base to the apex and the extreme lateral margin pale testaceous; underside pale or darker fulvous, the posterior part of the breast and the anterior femora sometimes piceous; the first joint of the posterior tarsi not longer than the second, the claw-joint strongly inflated.

Hab. MEXICO, Ventanas, Presidio (*Forrer*); GUATEMALA, near the city, Purula (*Champion*).

This variable little species may be known by the rugosely punctured space near the eyes, the short antennæ, and the alutaceous elytra, which show scarcely any punctuation. Unicolorous specimens (without the elytral bands) may be separated from *Œ. cyanipennis*, Fabr., by the much less shining elytra and the depressed disc of the thorax, which is altogether of a different shape and narrower. *Œ. interjectionis*, Crotch, is described as having brownish-black elytra, and a black base to the head; otherwise it seems closely allied to the present species.

†††† *Elytra with transverse bands or isolated spots.* (Species 34–69.)

34. Œdionychis bipunctata.

Œdionychis bipunctata, Chevr. Col. Mex. 1834, fasc. 3, nr. 64[1].

Œdionychis boucardi, Harold, Coleopt. Hefte, xv. 1876, p. 122[2].

Œdionychis insularis, Jacoby, P. Z. S. 1879, p. 445[3].

Hab. MEXICO[2 3], Vera Cruz[1], Cordova, Playa Vicente, Toxpam, Tuxtla (*Sallé*), Jalapa, Oaxaca, Cerro de Plumas (*Höge*); BRITISH HONDURAS, R. Sarstoon (*Blancaneaux*).

At first sight, and according to the descriptions of the authors, the three insects united here under one name seem certainly to be specifically distinct, if coloration alone is considered; but two specimens, contained in the Sallé collection, taken "in copulâ," prove that in this case at least *Œ. bipunctata* is but the female sex of *Œ. boucardi*, in which the bands of the elytra are absent, and the postmedial spot is greatly reduced in size, but whether all the females are so marked I am, of course, unable to say. There is one specimen before me in which all the darker markings are absent, and the elytra are entirely testaceous; in all other instances, however, a small *apical* spot is generally constant, by which the species, I think, may be principally recognized. The male of

Œ. bipunctata agrees in every particular with Von Harold's diagnosis. Some varieties have the elytra, with the exception of the small apical spot, entirely testaceous, but the black base of the head and the black scutellum seem constant. I must now refer to this species my *Œ. insularis*, in which the underside is ferrugineous, but the other characters the same; Chevrolat not mentioning the small apical spot, which probably was absent in the type, made me think my species was a distinct one. The many intermediately marked specimens now before me prove the great variability of *Œ. bipunctata*.

35. **Œdionychis godmani.** (Tab. XXIII. fig. 23.)

Œdionychis godmani, Jacoby, P. Z. S. 1880, p. 178[1].

Hab. Mexico, Tuxtla, Teapa (*Sallé*); Guatemala, Panzos, Teleman, Chacoj, Panima, Zapote (*Champion*); Nicaragua, Chontales[1] (*Belt*); Costa Rica, Volcan de Irazu (*Rogers*); Panama, Bugaba (*Champion*).

Several similarly-coloured species to this have been described, and it is quite possible that the present one, which seems to be subject to more or less variation in colour, is but another form of one or the other older species, of which, in many instances, types must be compared for a certain identification. It is probable that *Œ. plebeja*, Klug, and the manuscript names of *Œ. dispar* and *Œ. generosa*, Chevr., refer to the present insect. The large brown patches of the elytra change in some specimens into dark bluish or black, and the transverse space dividing them varies a good deal in width, as do the spots themselves, which, however, never touch the lateral margin. *Œ. honesta*, Illig., and *Œ. humilis*, Illig., seem also to be closely allied species, but the former is described as having the second band of the elytra extending to the lateral margin, which is not the case in *Œ. godmani*, and the apices of the posterior femora black, and *Œ. humilis* with having a black spot on the *middle* of the elytra.

36. **Œdionychis illigeri.** (Tab. XXIII. fig. 21.)

Flavous; base of the head and the intermediate joints of the antennæ black; thorax and elytra impunctate, the latter with a broad transverse band at the base and a narrower one below the middle black.

Length 3 lines.

Head black, shining, impunctate, with a single puncture near each eye, the space between the latter not broader than their diameter, with a deep transverse groove, the lower part of the face testaceous, the three lower and the three terminal joints of the antennæ testaceous; thorax fulvous, the anterior and posterior margins straight, the anterior angles scarcely visibly toothed, the surface impunctate; scutellum fulvous; elytra impunctate on the dark part, scarcely punctured on the lighter portions, the anterior band extending to nearly their middle, and separated from the posterior one by a narrow testaceous vitta, the posterior band situated directly below the middle and narrower than the anterior one, leaving the apex broadly testaceous, as well as the extreme lateral margin; the posterior femora with a small piceous spot at their apices; the first joint of the posterior tarsi not longer than the second.

Hab. Panama, Volcan de Chiriqui (*Champion*).

I have separated this species from *Œ. honesta*, Illig., and other allied forms by the

colour of the antennæ and the shape and size of the elytral bands, as well as by the pale colour of the underside and legs, which is the same in the two specimens before me.

37. Œdionychis insepta?

Œdionychis insepta, Harold, Deutsche ent. Zeitschr. 1877[1].

Hab. Panama, Chiriqui (*Ribbe*).—Peru[1].

So many similarly coloured species to this (fulvous elytra with transverse metallic bands) have been described, that it is impossible to say whether I am rightly referring the single specimen obtained by Herr Ribbe to Von Harold's species, with the description of which it agrees in the main points. The only differences seem to be the entirely black underside and legs in the Chiriqui specimen; the elytra in this individual are metallic greenish-black, the lateral margin and a narrow transverse band, slightly widened towards the suture, fulvous, and the base of the head and the antennæ black. A specimen from Peru contained in my collection agrees in every way with the one from Chiriqui.

38. Œdionychis fulvofasciata.

Dark fulvous; antennæ (the basal joints excepted) black; thorax impunctate; elytra rather strongly and closely punctured, greenish or bluish-black, a broad transverse band at the middle and the apex fulvous. Length 4 lines.

Head with some distinct punctures near the eyes, the latter rather closely approached, the frontal tubercles distinct; antennæ black, the two first joints fulvous, the third and fourth joints of equal length; thorax three times as broad as long, the sides straight at the base, rounded near the apex, the anterior angles produced into a distinct tooth, the surface impunctate; scutellum black; elytra nearly parallel, the shoulders prominent and bounded within by a deep groove, the punctuation close and very distinct, the base to nearly the middle is occupied by a transverse dark blue band which does not quite extend to the lateral margins nor to a narrow space above the shoulders, behind the middle another similar band is placed, which extends to the lateral margin, but not to the apices of the elytra, which remain fulvous, the posterior margin of the second band is concave, the anterior one irregularly dentate or sinuate; epipleuræ and the entire underside and legs dark fulvous.

Hab. Guatemala (*Sallé*); Nicaragua, Chontales (*Belt*).

Œ. insepta, Harold, seems to be a closely allied species, but is described as having blackish legs and underside, as well as the third joint of the antennæ much shorter than the fourth, which is not the case with the present species. *Œ. fulvofasciata* may be further distinguished by the distinct punctuation of the elytra, the fulvous band of which, dividing the blue portion, is less than half the width of the dark bands, and consequently broader than is the case with some other similarly coloured species.

39. **Œdionychis exquisita.** (Tab. XXIV. fig. 5.)

Broadly subhemispherical, pale fulvous; antennæ (the basal and apical joints excepted) fuscous; elytra finely punctured, flavous or testaceous, this colour divided by transverse and longitudinal metallic blue bands, enclosing fourteen large flavous spots.

Length $4\frac{1}{2}$ lines.

Head with a few very fine punctures, fulvous, the space between the eyes much larger than their diameter; antennæ not quite extending to half the length of the elytra, the fourth joint nearly double the length of the third, the three lower and the three apical ones fulvous, the others fuscous; thorax transverse, strongly narrowed at the middle, the sides greatly rounded and flattened, the posterior margin perfectly straight, the anterior angles produced into a short tooth, the surface punctured like the head, fulvous; scutellum fulvous; elytra very strongly rounded (like a species of *Coccinella*), finely but more distinctly punctured than the thorax, the suture anteriorly and posteriorly, the lateral margin to nearly the apex, a short longitudinal streak from the middle of the base, as well as three transverse narrow dentate bands (placed before, below the middle, and near the apex, and connected with each other at the middle), metallic blue; underside and legs pale fulvous.

Hab. Panama (*Boucard*).

This fine species, of which two specimens are before me, is not difficult to recognize on account of its rounded shape, large size, and peculiar markings. If the metallic-blue of the elytra is taken for the ground-colour, each elytron may be described as having seven large flavous spots (2, 2, 2, 1); the basal longitudinal stripe dividing the first two spots does not quite extend to the first transverse band; the shape of these bands will be better seen in the figure.

40. **Œdionychis decemguttata.** (Tab. XXIII. figg. 15, 18, 22, var.)

Galleruca decemguttata, Fabr. Syst. Eleuth. i. 1801, p. 492[1].
Altica 10-*guttata*, Oliv. Ent. vi. 1808, p. 680, t. 1. fig. 20[2].
Haltica dipus, Illig. Mag. vi. 1807, p. 86.
Œdionychis humeralis, Schaufuss, Nunq. Otios. ii. p. 307[3].
Œdionychis nicaraguensis, Jacoby, P. Z. S. 1879, p. 445[4].

Hab. Mexico, Presidio (*Forrer*), Cerro de Plumas, Jalapa (*Höge*), Cuernavaca, Panistlahuaca, Cosamaloapam, Orizaba, Teapa, Tuxtla, Vera Cruz (*Sallé*); British Honduras, R. Hondo (*Blancaneaux*); Guatemala, Zapote, Chacoj, Purula (*Champion*); Nicaragua, Chontales[4] (*Janson*, *Belt*); Costa Rica (*Van Patten*), Volcan de Irazu, Cache (*Rogers*); Panama (*Boucard*), David, Bugaba, Caldera in Chiriqui (*Champion*).—South America[1 2 3].

This is evidently a most variable species, of which, since the description of *Œ. nicaraguensis* was published, many more specimens have been received from the localities quoted above; the comparison of these examples leaves to me no choice but to look upon them as belonging to one and the same species. *Œ. decemguttata* seems to be a widely distributed species, of which a normally coloured specimen is fairly well figured in Olivier's 'Entomology'; the specimens figured here differ from the type in having bands instead of spots in a more or less well-marked degree, which, if connected, give

the ten-spotted normal form. Some of these banded varieties approach in the pattern of the elytra as well as in structural characters so close to an equally most variable species (*Œ. scissa*, Germ.), that it is quite possible that the latter and *Œ. decemguttata* and its varieties are one and the same species; I have at all events not been able to find satisfactory characters for their separation on account of the many intermediate degrees in respect to coloration and even structure.

To separate these numerous forms into so many different species would only add to the confusion and the difficulty of determination, since no line can be drawn in the variation of the colouring and pattern. There is, however, one form, obtained at Presidio only, which seems to differ from the specimens from any other locality; in this variety the elytra are dark fulvous, with the usual number of pale spots, and placed as usual; but the basal spot is not round but transverse, and projects in a short branch to the basal margin at its middle, and the transverse band in front of the apical spot is deeply emarginate or dentate at its posterior margin; other differences of importance I am unable to see.

41. Œdionychis duodecim-maculata. (Tab. XXIII. fig. 16.)

Œdionychis 12-maculata, Jacoby, P. Z. S. 1880, p. 176[1].

Hab. GUATEMALA, Capetillo[1] (*Champion*).

At first sight this species seems to be but another variety of *Œ. decemguttata*, in which the posterior band of the elytra has become separated into two spots; but other and constant differences are present to assist in the recognition of the species. The eyes in all the specimens are always more widely separated than in *Œ. decemguttata*; the two posterior spots on the elytra are placed in an obliquely concave direction (in *Œ. decemguttata* the posterior band is always convex), and the elytral margins and epipleuræ are constant metallic blue. The species was only received from the above locality, and the nine specimens before me do not show any marked variation.

42. Œdionychis brunneovittata.

Brownish piceous, above testaceous; elytra with a transverse narrow band below the base, joined by a longitudinal stripe at the shoulder and another transverse broader band below the middle, dark fulvous. Length 4 lines.

Head impunctate, with a central fovea, the space between the eyes broader than their diameter; antennæ fuscous, the first three joints fulvous, shining, the fourth joint longer than the third; thorax with very strongly rounded and flattened sides, narrowed in front, the anterior angles acute but not produced into a tooth, the surface impunctate; elytra widened at the middle, narrowed near the apex, very finely punctured, shining, testaceous, with a narrow dark fulvous band before the middle extending very nearly or quite to the sutural and lateral margins, a similarly coloured broader band is placed immediately below the middle, and a longitudinal stripe extends from the base within the shoulder to the anterior band.

Hab. PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).

The design of the elytra in this species resembles *Œ. tricruciata*, Germ., with the

difference that the entire apical portion in *Œ. brunneovittata* remains of the testaceous ground-colour; the sides of the thorax are also very much more rounded and not straight near the base, a character which will at once distinguish this species from the allied forms. Ten specimens, agreeing with each other in every particular.

43. Œdionychis panamensis. (Tab. XXIII. fig. 17.)

Dark brown; head and antennæ black; thorax and elytra testaceous; elytra very finely punctured, a transverse band before and another below the middle, the apex, and a longitudinal stripe at the shoulder, metallic bluish-black.

Var. The apical spot of the elytra wanting.

Length 3–4 lines.

Hab. PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).

It is quite possible that this species is only a variety of the preceding, for which I would have at once taken it, had the sixteen specimens before me not shown all the same constant differences; the pattern of the elytra is in some examples absolutely identical, in others there is an additional apical spot as the figure shows; but the bands are here always metallic violaceous or bluish-black; the head, with the exception of the parts of the mouth which are testaceous, is also black, as are the antennæ, and the latter have the fourth joint very distinctly longer than the third, and more markedly so than in *Œ. brunneovittata.*

44. Œdionychis olivacea.

Obscure greenish or greenish-testaceous; third and fourth joints of antennæ equal; elytra closely and distinctly punctured, the base narrowly, a transverse sinuate band before, and another broader behind the middle, obscure fulvous.

Var. *a.* Elytra metallic bluish, with an indistinct pale transverse central band.

Var. *b.* Elytra obscure greenish-brown, the bands nearly obsolete.

Length $3\frac{1}{2}$–$4\frac{1}{2}$ lines.

Hab. PANAMA, Bugaba (*Champion*).

This is another species very closely allied to *Œ. brunneovittata* and *Œ. panamensis*, as well as to *Œ. decemguttata*; from the first two it may be distinguished by the much less rounded thorax, the sides of which are straight at the base and have a distinct anterior tooth, and the much stronger punctuation of the elytra; this latter character and the pale greenish colour separates the species from *Œ. decemguttata*, from which it seems further to differ by the more dentate or sinuate elytral bands, which in many specimens are scarcely visible. I am unable to say whether the present insect is not another variety of *Œ. decemguttata*, the only species of the genus with which, on account of the shape of the thorax, it can be confounded; but as more than fourteen specimens, all agreeing in the above particulars, are before me, I am obliged to separate *Œ. olivacea* as a distinct species.

45. **Œdionychis salvini.** (Tab. XXIII. figg. 24, 25.)

Œdionychis salvini, Jacoby, P. Z. S. 1880, p. 179[1].

Hab. GUATEMALA, Zapote[1], Pantaleon (*Champion*); COSTA RICA (*coll. Jacoby*).

The description of this species gives the thorax as finely but distinctly punctured; this is a mistake, as a closer examination proves to me; the surface may be described as being almost impunctate (under a very strong lens some minute punctures can be seen). I look upon one specimen figured (25) as a variety, as it was obtained at the same locality, and I have some intermediate degrees of coloration before me; a constant character in *Œ. salvini* seems to be the black scutellar spot, which in three specimens is shaped as the figure 24 shows, while in others it is rounded and more transverse; in these forms the shoulder spot is wanting, and the two posterior spots are united; in no specimen, however, that I have seen does the basal spot extend further than the figure represents. The legs are dark brown in one specimen only; in the others the four anterior ones are nearly black, the base of the femora only being fulvous.

46. **Œdionychis transversalis.** (Tab. XXIV. fig. 17.)

Œdionychis transversalis, Jacoby, P. Z. S. 1879, p. 444[1].

Hab. NICARAGUA, Chontales[1] (*Janson*); PANAMA (*Boucard*), Bugaba, Volcan de Chiriqui (*Champion*).

In plainly marked specimens of this species the elytra have a black square patch enclosing two testaceous round spots at their anterior half; in a variety these spots are enlarged, reducing the black portion to narrow transverse and longitudinal bands; in another variety the black predominates so as to surround a single pale spot below the base; lastly all the black portion is reduced to two spots at the base and a short transverse stripe at the middle; this latter variety resembles greatly *Œ. humeralis*, Fabr., but in that species there is never (as far as I have noticed) a black spot at the middle of the basal margin of the elytra, a constant character in all the specimens of *Œ. transversalis* and its varieties.

47. **Œdionychis tenuicincta.** (Tab. XXIV. fig. 22.)

Testaceous; antennæ obscure fuscous; head and thorax impunctate; elytra very closely punctured, the extreme basal margin, a narrow transverse band behind the middle, and a spot near the scutellum, black. Length 2–3 lines.

Eyes large, the space dividing them not broader than their diameter; fourth joint of the antennæ slightly larger than the third, the five lower and one or two apical joints testaceous, the intermediate ones fuscous; thorax with the lateral margins nearly straight, the anterior angles not produced, the posterior margin quite straight, the surface impunctate; elytra a little widened towards the middle, of a very slightly convex shape, the transverse basal and posterior bands extremely narrow, the former extending as far as the

shoulders, the latter not quite touching the sutural or lateral margins, the small spot placed close to but below the scutellum.

Hab. MEXICO, Playa Vicente, Tuxtla (*Sallé*), Jalapa (*Höge*); BRITISH HONDURAS, R. Hondo (*Blancaneaux*); GUATEMALA, Panzos, San Gerónimo (*Champion*); NICARAGUA, Chontales (*Belt*); PANAMA, Bugaba (*Champion*).

The narrow black basal margin of the elytra and the transverse band placed *below* the middle will not allow *Œ. tenuicincta* to be mistaken for any other described species.

48. **Œdionychis championi.** (Tab. XXIV. fig. 18.)

Pale testaceous; the last six or seven joints of the antennæ black; head and thorax impunctate; elytra finely and closely punctured, two spots at the base (one at the shoulder, the other near the scutellum), and three behind the middle (placed transversely), black.
Length 3 lines.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

The two specimens obtained do not differ in shape from *Œ. tenuicincta* or *Œ. humeralis*, with the latter of which they have the two obliquely placed basal spots in common, but differ in having three spots placed *behind* the middle, the sutural one of which is placed a little lower than the other two, thus giving a convex shape to the line of position; the want of the black basal margin and the extra shoulder spot separate *Œ. championi* from *Œ. tenuicincta*. The position and shape of the markings of these insects seem to me a better guide for their classification than the number or colour of the marks themselves.

49. **Œdionychis inscripta.** (Tab. XXIV. fig. 21.)

Subdepressed, testaceous; the base of the head and the four terminal joints of the antennæ black; thorax impunctate; elytra very finely punctured, a transverse band at the base (enclosing four testaceous spots) and a narrow band behind the middle, black.
Length 3 lines.

Hab. MEXICO, Jalapa (*Höge*).

In shape and coloration this species resembles somewhat *Œ. transversalis*, Jac., but the design of the elytral markings is different. The entire posterior part of the head is black and impunctate; the basal band of the elytra does not extend to the lateral margin, and is interrupted by four elongate testaceous spots regularly placed; the posterior narrow band is placed *below* the middle, extends to the lateral and, in most cases, sutural margin, and is curved or convex in shape.

50. **Œdionychis hypocrita.**

Pale testaceous; antennæ with the four or six last joints black; elytra impunctate, a transverse dentate band below the base (including three or four spots), and another deeply angulate band below the middle, obscure fulvous.
Length $2\frac{3}{4}$–3 lines.

Hab. GUATEMALA, San Gerónimo (*Champion*), Yzabal (*Sallé*); NICARAGUA, Granada (*Sallé*).

Very closely allied to *Œ. inscripta*, but to be separated from that species by the entirely testaceous head and the different shape of the elytral bands, the anterior of which is deeply angulate on each side and at the sutural margin, where it is generally connected with the equally dentate posterior band. As there are eight specimens before me which all differ in the same way from *Œ. inscripta*, I am obliged to consider them as distinct. The elytral bands are often indicated by spots only, but they retain their angulate appearance and are always of a *fulvous* colour.

51. **Œdionychis biarcuata.** (Tab. XXIII. fig. 13.)

Œdionychis biarcuata, Chevr. Col. Mex. 1834, fasc. 3. no. 66[1].

Hab. MEXICO[1], Cordova (*Sallé*); BRITISH HONDURAS (*Sallé*); GUATEMALA, San Gerónimo (*Champion*).

The specimens labelled with the above name and contained in the Sallé collection do not quite agree with the description given by Chrevrolat; this author describes the head as "rougeâtre" as well as the thorax; but in all the specimens before me the former is piceous and the thorax testaceous. The markings of the elytra consist of a black ring at the base, and a semicircular transverse narrow band below the middle, the sutural end of which is connected with another short longitudinal streak within the concave part; these markings vary in thickness and also in shape; the breast is black in all the specimens I have for comparison (Chevrolat makes no mention of this), and the fifth to the ninth joints of the antennæ are fuscous, the rest testaceous.

As Chevrolat says that the insect was taken abundantly by M. Sallé, I have no doubt about the right determination of this species; a single specimen only was obtained by Mr. Champion.

52. **Œdionychis proxima.** (Tab. XXIV. fig. 19.)

Pale testaceous; intermediate joints of the antennæ piceous; thorax impunctate; elytra extremely closely punctured, a transverse band at the base and another one of a semicircular shape behind the middle, black.

Length 3 lines.

Head impunctate, the space between the eyes not broader than the diameter of the latter; basal and terminal joints of the antennæ testaceous, the others piceous; thorax transverse, at least three times as broad as long, the sides strongly rounded and flattened; elytra scarcely widened behind, the basilar band not extending to either margin, and obliquely shaped at its inner margin near the scutellum, and another crescent-shaped band extending to the lateral and sutural margins, black.

Hab. GUATEMALA, Panzos (*Champion*).

At first sight this species seems to be but a variety of *Œ. biarcuata*, Chevr. The following differences will help to distinguish it:—the thorax in *Œ. proxima* is much

more transverse, with the sides more rounded and flattened; the head is entirely testaceous, and the elytral bands are of a different shape; the basilar one often includes a small testaceous spot, and is *always* cut oblique or angular near the scutellum, where it leaves a narrow space of the ground-colour; the posterior band is pointed at each end, and extends a little distance along the sutural and lateral margins, assuming a semicircular shape; in *Œ. biarcuata* this corresponding band turns inwards again from the suture, and the space enclosed is divided by another longitudinal streak. Eleven specimens, all agreeing in the above particulars.

53. Œdionychis humeralis.

Galleruca humeralis, Fabr. Syst. Eleuth. i. p. 494[1]; Illiger, Mag. vi. p. 101[2].
Galleruca sellata, Fabr. Syst. Eleuth. i. p. 492; Illiger, Mag. vi. p. 102[3].
Œdionychis 6-punctulata, Schauf. Nunq. Otios. ii. 1874, p. 295[4].

Hab. Nicaragua, Chontales (*Janson*); Costa Rica, Cache (*Rogers*); Panama, Volcan de Chiriqui, Bugaba, Caldera (*Champion*).—South America[1 4 2 3].

There does not seem to be any important difference between the Central American specimens and others from South America contained in my own collection; most of those sent by Mr. Champion from Chiriqui have the usual two oblique basal spots and a transverse narrow central black line; in others this line is only indicated by another small black spot until that also is absent in some forms; in one variety there are no spots whatever, and the entire insect is of a pale testaceous colour.

54. Œdionychis imitans.

Pale yellowish white; the last seven joints of the antennæ and the breast black; elytra finely rugose and punctured, two small spots at the base (placed obliquely), and another below the middle, black.
Length 3 lines.

Hab. Panama, Volcan de Chiriqui (*Champion*).

Whether the single specimen before me represents a species distinct from *Œ. humeralis* or is only a variety I am unable to say. The black breast and antennæ, of which the four first joints only of the latter are testaceous, the rugosely punctured elytra, the posterior spot of which is not placed at, but below the middle, and the whitish semiopaque colour of the insect seem to me sufficient to render it specifically distinct, although structurally it agrees with *Œ. humeralis*.

55. Œdionychis brevicornis.

Ovate, fulvous; base of the head black; antennæ submoniliform; thorax impunctate, fulvous, or testaceous; elytra finely but distinctly punctured, metallic blue or blackish, a transverse spot at and two others below the middle, and one at the apex of each elytron, testaceous or fulvous.
Var. The spots united in the shape of two transverse bands.
Length 2–2½ lines.

Head with a few distinct punctures near the eyes, black or piceous, the lower part fulvous; antennæ very short, black, the three lower joints generally fulvous and shining, the fourth joint scarcely longer than the third; thorax with the sides narrowly flattened, the lateral margin straight at the base, rounded towards the apex, the anterior angles with a short tooth, the surface impunctate; scutellum black; elytra finely but distinctly punctured, dark blue or blackish æneous, the first spot transverse, not touching the margins, and widened towards the suture, the two posterior ones near the apex and the apical spot placed at the extremity of the elytron; the anterior legs and the tibiæ more or less dark coloured, the others and the underside fulvous.

Hab. MEXICO, Vera Cruz, Oaxaca (*Sallé*), Jalapa (*Höge*); GUATEMALA, Chiacam, Tamahu (*Champion*).

This species is principally distinguished by the short antennæ; the design of the elytra is also different from any allied species, there being no spot near the scutellum; in the variety the elytra have two transverse sinuate bands *touching* the lateral margin besides the apical spot; it is probable that specimens occur in which the anterior band is equally divided into two spots. The Guatemalan specimens seem to me to be immature as the elytra are fulvous instead of blue, but the position of the spots and the short antennæ are similar.

56. **Œdionychis atroguttata.**

Subdepressed, pale testaceous; four terminal joints of the antennæ black; thorax impunctate; elytra very finely punctured, the basal margin, two sutural and five spots on each elytron, black.

Length $2\frac{1}{2}$ lines.

Head impunctate, deeply transversely grooved between the eyes, the latter large, and the space between them not wider than their diameter; antennæ slender, testaceous, the last four joints black; thorax narrowly transverse, the sides flattened and rounded, the anterior angles not produced, the surface impunctate; elytra with the following black markings, a narrow transverse band at the basal margin extending to the shoulders, a spot below the latter and one near the scutellum, a spot at the suture before and a similar one (sometimes wanting) below the middle, a transversely shaped spot at the middle of the disc, and close behind it another one at the lateral margin.

Hab. MEXICO, Presidio, Ventanas (*Forrer*).

The narrow black basal band of the elytra seems to be a constant character in this species; in some specimens a more or less distinct costa runs from the shoulder nearly to the apex.

Œ. 6-maculata, Illig., seems to be closely allied; that species, however, is without a basal black band, and has not so many spots.

57. **Œdionychis maculata.** (Tab. XXIV. fig. 9.)

Œdionychis maculata, Harold, Coleopt. Hefte, xv. p. 124 (1875)[1]; Sturm, Catal. 1843, p. 280[2].

Hab. MEXICO [1 2], Juquila, Cuernavaca (*Sallé*), Cordova (*Höge*); GUATEMALA, Capetillo, Cerro Zunil (*Champion*), Aceytuno (*Salvin*).

The description of this species by Von Harold requires some additional remarks; in the typical form, a specimen of which, named by Sturm himself, I have before me, the thorax has the posterior margin narrowly piceous, and the elytra have two transverse

black bands as well as three basal and two apical spots; in varieties from Cuernavaca all the elytral bands are separated into spots placed transversely (3, 4, 4, 2), in others the apical spots are wanting, as well as the thoracic band, but structural differences I cannot see; the legs are generally fulvous and the underside piceous, but sometimes the reverse is the case, and several intermediate degrees in regard to the pattern of the elytra and the colour of the underside are before me, thus proving the variability of the species. Mr. Champion obtained nearly forty specimens of the same or an extremely closely allied species, in which the underside and legs are nearly always dark and the thorax rather narrower and more shining, without any dark markings; but as all the other characters seemed to be the same, I think the Guatemalan specimens may safely be considered as identical with or as a local variety of the Mexican form.

58. **Œdionychis tredecim-maculata.**

Œdionychis 13-*maculata*, Jacoby, P. Z. S. 1880, p. 177 [1].

Hab. Mexico [1], Michoacan (*Flohr*).

This little species cannot be mistaken for any other on account of the position of the spots, notably the one surrounding the scutellum. Two specimens from Mexico, as well as two others kindly given to me by Mr. Flohr, are contained in my collection.

59. **Œdionychis signata.**

Subdepressed, testaceous; intermediate joints of the antennæ black; thorax impunctate; elytra extremely finely punctured, a dentate band before, another at, and a third behind the middle, fulvous, the shoulder with one, the lateral margin with two spots.

Var. *a*. Elytra with the posterior band absent; each elytron with two extra spots, one before, the other behind the middle, the bands margined with piceous.

Var. *b*. No elytral bands; each elytron with seven black spots, four placed obliquely anteriorly, a larger one below the middle, one at the lateral margin, and another near the apex.

Length 2–2½ lines.

Head impunctate, with the exception of a few very fine punctures near the eyes, the latter rather closely approached; antennæ, with the first five or six and the two terminal joints, testaceous, the others black; thorax impunctate.

Hab. Mexico, Tuxtla, Cordova (*Sallé*); British Honduras, R. Hondo, R. Sarstoon (*Blancaneaux*); Guatemala, Chacoj, Chiacam, Sinanja (*Champion*).

I have taken the banded form of this apparently very variable species for the type: these bands have the black spots of the varieties more or less indicated at exactly the same places; in others spots and bands alternate till the latter entirely disappear, thus proving the variation and identity of all these forms.

60. **Œdionychis conspurcata.** (Tab. XXIV. fig. 8.)

Ovate, slightly widened behind, black or piceous; head closely punctured, above testaceous; elytra wrinkled, more or less costate, two transverse strongly dentate bands, a spot at the shoulder and another near the apex of each elytron, black.

Length 2–2½ lines.

Hab. Mexico, Puebla, Juquila, Durasnal, Huatusco, Yolos, Peras (*Sallé*), Cerro de Plumas (*Höge*), Michoacan (*Flohr*); Guatemala, Capetillo (*Champion*).

At first sight *Œ. conspurcata* so much resembles *Œ. maculata* in the arrangement of the pattern of the elytra, as to suggest the probability of its being a variety only of this species; but as I have more than forty specimens for examination, all differing in the same way, I must conclude the species to be a distinct one. The differences to be found are the following: in *Œ. conspurcata* the head is always closely punctured on the vertex (not smooth as in the allied species), and the entire posterior portion is black; the disc of the thorax is generally spotted with piceous, and has a distinct transverse groove near the base; the elytra have *always* a wrinkled appearance, and are generally furnished with longitudinal grooves and alternate costæ; lastly, the anterior black elytral band is very strongly dentate, forming a distinct V-shaped mark across the suture; in the variety in which the bands are broken into spots, as in *Œ. maculata*, the rugose and costate appearance of the elytra remain the same. I retain a MS. name of Chevrolat's for this species.

A single specimen only was obtained at Guatemala by Mr. Champion.

61. **Œdionychis jansoni.** (Tab. XXIV. fig. 24.)

Elongate, flattened, testaceous; head finely punctured; thorax impunctate; elytra with the suture, a transverse spot at the base, another at the middle, and a third near the apex, fulvous.

Length 3 lines.

Head finely punctured; the eyes large, closely approached; antennæ fulvous, the intermediate joints obscure piceous, the third and fourth joints of equal length; sides of the thorax broadly flattened, the anterior angles not produced, without any trace of a tooth; elytra narrowed towards the apices, the lateral margin rather broadly flattened anteriorly, but gradually narrowed posteriorly, the surface finely punctured, testaceous, the suture narrowly, and three transverse bands (the two anterior ones of which do not extend to either margin), fulvous; first joint of the posterior tarsi longer than the second, the claw-joint strongly swollen.

Hab. Nicaragua, Chontales (*Janson, coll. Jacoby*).

This species may be known by its flattened, posteriorly narrowed shape, the elytral margin, and their design. I possess only a single specimen.

62. **Œdionychis quærula.** (Tab. XXIII. fig. 19.)

Œdionychis quærula, Harold, Berl. ent. Zeitschr. 1881, p. 138[1].

Hab. Panama, Bugaba, Volcan de Chiriqui (*Champion*), Colon (*Boucard*).—Venezuela (*coll. Jacoby*); Brazil[1].

I have not much doubt that I am rightly referring the specimens from the above localities to Von Harold's species, although the description makes no mention of any structural characters except the punctuation of the elytra and their design. The arrangements of the small elytral spots agree well with the description, with the exception that there are *two* small spots visible near the apex in the Central American specimens, while Von Harold only speaks of one. A single specimen from Colon has

the intermediate basal spots united in the shape of a transverse band; the same is the case with the apical ones, which, after forming a transverse band, are joined by a short sutural stripe to a triangular apical spot. All the specimens differ from the type in wanting the spots on the thorax and the short lateral stripe near the apex of the elytra, which are, however, present in the specimen from Venezuela contained in my own collection.

63. **Œdionychis hondurensis.** (Tab. XXIV. fig. 25.)

Ovate, widened behind, fulvous; antennæ black, the first two joints testaceous; head and thorax fulvous, impunctate; elytra finely punctured, reddish fulvous, the basal and lateral margins broadly black.

Var. Elytra entirely fulvous.

Length $1\frac{1}{2}$ line.

Head impunctate; the eyes not closely approached; antennæ with the third joint scarcely longer than the second, the following joint also rather short, the three lower, and often the apical one, testaceous; thorax more than twice as broad as long, the sides moderately rounded, the anterior angles short and tuberculiform, the surface entirely impunctate, with a rather distinct groove on each side near the base; scutellum fulvous; elytra extremely minutely and not very closely punctured, a transverse broad band at the base, connected with a narrower longitudinal band at the sides, not extending to the apex, black or piceous; the first joint of the posterior tarsi very short; claw-joint strongly swollen.

Hab. BRITISH HONDURAS, Belize (*Blancaneaux*).

This is one of the smallest species of the genus, the size of which, together with the short second and third joints of the antennæ, will assist in its recognition.

64. **Œdionychis violaceomarginata.** (Tab. XXIV. fig. 23.)

Oblong, convex, fulvous; antennæ and the anterior legs piceous; vertex of the head dark blue; thorax pale fulvous; elytra testaceous, finely punctured, the basal and sutural, as well as the lateral margins anteriorly, violaceous-blue.

Length 3 lines.

Head impunctate at the vertex, with a few punctures near the eyes, the latter widely separated, the frontal tubercles rather broad and trigonate, the lower part of the face testaceous, the labrum and jaws piceous; antennæ short, black, the two basal joints stained with fulvous below, the fourth joint longer than the third; thorax narrow, more than three times as broad as long, the sides straight at the base, rounded towards the apex, narrowly flattened, the anterior angles thickened but not produced outwards, the surface entirely impunctate, with a shallow transverse basal groove; scutellum black; elytra slightly narrowed towards the apices, convex, and nearly subcylindrical, finely and closely punctured, of a paler colour than the thorax, the basal margin enclosing the shoulders, as well as the suture and the lateral margin anteriorly, metallic dark blue; the underside and the posterior legs reddish fulvous, the anterior ones piceous; the first joint of the posterior tarsi very short.

Hab. MEXICO, Oaxaca (*Höge*).

The two specimens obtained are alike in every particular; the blue colour of the suture and lateral margin is extremely narrow, and, in the case of the latter, does not extend further than just below the middle, while the colour of the suture extends slightly round the apices of the elytra; the latter have their epipleuræ testaceous without, piceous within.

65. Œdionychis montana.

Flavous; antennæ (the first joint excepted), the four anterior tibiæ, and tarsi, black; thorax impunctate; elytra finely punctured.

Var. Above fulvous.

Length 2 lines.

Head impunctate, the eyes wider apart than their diameter; antennæ more than half the length of the body, black, the first two joints testaceous, the fourth joint distinctly longer than the third; thorax nearly three times as broad as long, the sides nearly straight at the base, rounded in front, the lateral margins narrowly flattened, the anterior angles scarcely produced, the surface with a rather deep transverse groove on each side near the base, impunctate; elytra widened behind, the shoulder not bounded within by a groove, the surface finely punctured, somewhat raised below the base; legs and underside flavous, the outer side of the four anterior tibiæ and the tarsi piceous; the first joint of the posterior tarsi very short; claw-joint strongly swollen.

Hab. PANAMA, Volcan de Chiriqui, Bugaba (*Champion*).

The small size, and the colour of the antennæ and of the anterior tibiæ, which is the same in the sixteen specimens before me, separates *Œ. montana* from *Œ. paupera*, Illig., *Œ. cribriceps*, Schauf., *Œ. insignita*, Boh., and several other unicolorous species.

66. Œdionychis tibialis.

Ovate, testaceous; antennæ, the knees, and the tibiæ, piceous; head and thorax impunctate; elytra finely punctured.

Length 2 lines.

Head impunctate, the frontal tubercles transverse; antennæ piceous, the first joint testaceous, the third and fourth joints equal in length; thorax very transverse, the sides rounded and broadly flattened, the anterior angles produced into a tooth, the surface impunctate, somewhat convex, the posterior margin straight; elytra very finely punctured; underside and legs testaceous; tibiæ and tarsi piceous, the posterior tibiæ testaceous at the base.

Hab. COSTA RICA, Cache (*Rogers*).

The small size and colour of the tibiæ and antennæ separates this species from its unicolorous allies.

67. Œdionychis discolor.

Obscure fuscous or testaceous; head closely punctured; thorax minutely punctate; elytra finely rugose, the interstices closely punctured, each with two obscure spots at the base and one at the middle.

Var. Elytra unspotted.

Length 3 lines.

Head rather closely and somewhat rugosely punctured; the frontal elevations distinct and rather broad, the eyes not very closely approached; antennæ slender, the joints elongate, the third and fourth joints equal, the three lower ones sometimes dark fulvous, the others nearly black; thorax slightly narrowed in front, the sides rather broadly flattened, the anterior angles not produced, the surface dull and covered with some very fine punctures (visible only under a strong lens); elytra closely and finely rugose and punctured, with a spot at the shoulder, another one near the scutellum, and a third at the middle, obscure piceous.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

Whether the colour of this species is always so obscure and dull as the three specimens before me show, I am unable to say, but the closely punctured head and rugosely punctured elytra are peculiar to this species, and will help in recognizing it.

68. Œdionychis læta.

Altica (*Ædionychis*) *læta*, Perbosc, Rev. Zool. 1839, p. 263[1].

Hab. Mexico, Vera Cruz [1] (*Perbosc*).

69. Œdionychis sallæi.

Œdionychis salléi, Baly, Ann. & Mag. Nat. Hist. 3rd ser. iv. p. 274[1] (1859).

Hab. Mexico [1].

I have been unable to find the type of this species in the collection of Mr. Baly (now in the possession of the British Museum), nor have I seen a specimen answering to the description of that author.

b. *Anterior coxal cavities closed.*

In treating of this division of the Halticinæ, which have, like those of the preceding, the globular inflation of the posterior claw-joint in common, it is first of all necessary to point to a constant character, in connection with that of the closed coxal cavities, namely, the punctuation of the elytra, which is arranged in striæ, a constant occurrence, so far as we know, amongst the "Œdipodes," the present division. This is a curious and interesting fact, since no instance of a similar structure is known to occur amongst the "Physapodes," in which the anterior coxal cavities are open; and although the punctuation of the elytra is generally a character of little value in classification, in this instance at least, in connection with the globular claw-joint, it is of importance and perfectly sufficient for the recognition of any species of this division. It is a great deal more difficult to place the species in genera which may be recognized by the student without doubt or much trouble. The important monograph by Clark which treats of these insects (Catalogue of Halticidæ, pt. 1, 1860) contains no less than 42 genera, which are frequently established on variable and doubtful characters, and even his primary divisions into two tribes, one with filiform palpi, rarely quadrate, and the other with palpi which are incrassate, rarely quadrate, does not render a determination of the genera in either tribe easy, since their characters are almost identical. This has already been remarked by Herr von Harold (Col. Hefte, xiii. 1875), yet Clark was the first author who contributed greatly to the knowledge of these up to that time rare and almost unknown Halticinæ, he having described more than 240 species, mostly from South America. Central America has hitherto contributed but very few species, but, thanks to the researches of Mr. Champion, Herr Höge, and others, the species from that country now amount to a very considerable number.

Most interesting and curious forms are to be met with amongst the "Œdipodes," the genus *Loxoprosopus*, for example, having quite the appearance of a small species of 'Longicornia,' on account of the immense size of the antennæ; in others the body, instead of having the general oblong or elongate shape, is short, broadly ovate and

strongly convex, and in this case generally brightly coloured and without pubescence. The present division is not entirely confined to the New World, but has a few representatives in Africa and Europe; the species from these last-named countries form the only exceptions to the striate punctuation of the elytra, the latter here being irregularly punctured. For further particulars regarding the "Œdipodes" I must refer to Clark's monograph, in which the figures are unfortunately uncoloured. A future monographer of these insects will no doubt greatly reduce the number of genera established by Clark; in the present work remarks can only be offered on those which come under examination, and so far as they refer to species inhabiting the regions under investigation.

ALLOCHROMA.

Allochroma, Clark, Cat. Halticidæ, p. 181 (1860).
Exartematopus, Clark, loc. cit. p. 169.

The species placed in this genus are for the most part glabrous above and brightly coloured; the thorax is transversely quadrate, and the posterior tibiæ are armed with a double spur; the claws appendiculate. Too much specific value must not be placed on the comparative length of the joints of the antennæ, which I find to differ in the same species according to sex and locality; they have, however, in most instances, a distinct tendency to gradual incrassation towards the terminal joints. Two species only from Central America were known to Clark. As will be seen I have united here *Exartematopus* with *Allochroma*; although both Clark and Von Harold consider these distinct I cannot come to the same conclusion, after the examination of several species. *Exartematopus* has, according to Clark, distinctly incrassate antennæ, and, according to Von Harold, the sixth joint greatly thickened and elongate, of which Clark says nothing. This latter character is, however, only peculiar to the male insect, and I have several species before me which prove this assertion. *Allochroma sanguineum*, Clark, the type of which I have for examination, has exactly the same incrassate antennæ, also the same transverse thorax which is said to be peculiar to *Exartematopus*, but which is found in several degrees of modification in other species of *Allochroma.* All the species, with very few exceptions of either genus, are glabrous, highly coloured, and generally of the same shape and structure, and it seems to me impossible to draw the line at characters which seem to vary in nearly every species.

1. **Allochroma sexmaculatum.** (Tab. XXV. figg. 1–3.)

Allochroma sexmaculatum, Clark, Cat. Halticidæ, p. 185, t. 7. fig. 7 [1].

Hab. British Honduras, R. Sarstoon (*Blancaneaux*); Guatemala, San Gerónimo, Panima, Senahu, and Sabo (*Champion*); Costa Rica (*Van Patten*); Panama (*Boucard*), Volcan de Chiriqui, David (*Champion*).—Brazil [1].

Var. *a.* Elytra with two broad transverse black bands occupying nearly the entire disc, but interrupted by a

narrow transverse testaceous band at the middle, and another at the apices and connected with the lateral margin.

Var. *b*. Black, the lower part of the face and the abdomen pale fulvous.

A. sexmaculatum seems subject to great variation in regard to colour and size, and the elytral bands may almost entirely cover the surface, or the entire insect may be black, with the exception of the face and the abdomen; these forms were not known to Clark; this author gives the fifth and sixth joints of the antennæ as being longer than the third, but in all the specimens I have examined, including the type, I find that these joints are of *equal* length; neither can the head be called impunctate, as some fine and remotely-placed punctures are distinctly visible when seen under a strong lens; there is also a deep central fovea above the insertion of the antennæ.

2. **Allochroma fasciatum.** (Tab. XXV. fig. 4.)

Allochroma fasciatum, Clark, Cat. Halticidæ, p. 186, t. 7. fig. 8 [1].

Hab. Mexico [1], Cordova, Tuxtla (*Sallé*), Jalapa (*Höge*); Guatemala, Zapote, La Tinta, Purula, Senahu, Sinanja, Chacoj, and Cubilguitz in Vera Paz (*Champion*); Costa Rica.—South America.

The width of the two elytral black bands in this species is subject to variation, as is also the colour of the antennæ, which may be entirely black, or black and the apical two or three joints fulvous; the head is generally finely punctured (which Clark does not mention), and is devoid of the more or less deep fovea by which *A. sexmaculatum* may be known from this species. A specimen from Costa Rica before me has the bands of the elytra reduced to four small spots.

3. **Allochroma quatuor-pustulatum.**

Allochroma quatuor-pustulatum, Clark, Cat. Halticidæ, p. 191 [1].

Hab. Guatemala [1].

I have not seen a specimen answering the description given by Clark, who compares the species to his *A. festivum*. In the diagnosis the author speaks of four elytral spots, but in his description of the species he only mentions two.

4. **Allochroma festivum.** (Tab. XXV. fig. 7.)

Allochroma festivum, Clark, Cat. Halticidæ, p. 192 [1].

Hab. Guatemala, Zapote (*Champion*).—Brazil [1].

A typical specimen in the Baly collection from Brazil agrees perfectly with those from the above locality in structural characters, but the coloration of the specimens from Guatemala is different: these have the two elytral spots connected in the shape of a longitudinal posteriorly pointed band, leaving only the margins of the fulvous ground-colour;

the legs are either black or fulvous; in the type, as well as in all the other specimens before me, there is a longitudinal costa, well marked, placed at the sides, commencing from the shoulder and extending to below the middle, of which Clark says nothing.

5. **Allochroma högei.**

Fulvous; intermediate joints of the antennæ black, the sixth joint long and thickened; thorax scarcely punctured; elytra fulvous, a spot at the base and a longitudinal band from the middle to the apex of each black.

♀. Antennæ simple; elytra longitudinally costate.

Length 2–2½ lines.

Hab. MEXICO, Cerro de Plumas, Jalapa (*Höge*), Cordova (*Sallé, Höge*).

It will only be necessary to point out the differences between *A. högei* and *A. festivum*, which at first sight seem identical: in the male of *A. högei* the sixth joint of the antennæ is greatly thickened and elongate (as is the case with other species described and included in the present genus), the thorax has only a few very fine punctures, and is more transversely shaped, and the elytra are more closely and finely punctured; the female of *A. högei* differs from that of *A. festivum* in the closely and distinctly costate interstices of the elytra, resembling in that respect *A. godmani*, which may possibly be only a unicolorous variety of the present species, since specimens of both were obtained at the same locality (Cordova).

6. **Allochroma balyi.** (Tab. XXV. fig. 5.)

Allochroma balyi, Clark, Cat. Halticidæ, p. 187 [1].

Hab. MEXICO (*coll. Baly*), Cerro de Plumas (*Höge*), Juquila (*Sallé*).—? SOUTH AMERICA [1].

This is a handsome species with black elytra, the latter being marked with two large yellow spots; the head, thorax, and the underside, as well as the posterior legs, are rufous, the anterior legs less piceous. There are several errors in the description given by Clark of this species; in the diagnosis the posterior femora are given as flavous, in the description following they are called black; neither is right, the colour is fulvous or rufous. Clark gives as the locality, "South America"; the only specimen contained in Mr. Baly's collection, from which the description was drawn, bears the label "Mexico," which is no doubt the right locality, as proved by the specimens obtained by Herr Höge and M. Sallé.

7. **Allochroma bimaculatum.** (Tab. XXV. fig. 6.)

Allochroma bimaculata, Jacoby, P. Z. S. 1879, p. 784 [1].

Hab. NICARAGUA [1]; PANAMA, Bugaba (*Champion*).

The specimen obtained by Mr. Champion is a female, and differs from a specimen of the other sex, contained in my collection, in the much shorter posterior femora, the

latter in the male projecting beyond the apices of the elytra; the thorax in the male is also less transverse, and the sixth joint of the antennæ is longer and thicker than the corresponding joint in the female; in all other respects the specimens agree.

8. **Allochroma sexsignatum.** (Tab. XXV. fig. 9.)

Allochroma sex-signatum, Clark, Cat. Halticidæ, p. 193[1].

Hab. British Honduras, Belize (*Blancaneaux*).—Brazil [1].

The single specimen obtained by M. Blancaneaux agrees in every particular with the type contained in the collection of Mr. Baly; the only difference to be noticed is the rufous (not flavous) colour of the thorax and the generally brighter colour of the insect from British Honduras, attributable no doubt to its comparatively recent capture.

9. **Allochroma chiriquense.** (Tab. XXV. fig. 10.)

Pale fulvous, glabrous; first six joints of the antennæ piceous; thorax and elytra testaceous, the former remotely punctured, the latter deeply punctate-striate, the interstices longitudinally costate, a square-shaped spot at the base and another below the middle fulvous, margined with piceous.

Length 3 lines.

Head distinctly but not very closely punctured; the clypeus deflexed anteriorly; penultimate joint of the palpi transversely dilated, piceous; antennæ slender, the third joint much longer than the fourth and the longest, the four terminal joints fulvous and shorter than the rest, the others piceous; thorax transversely quadrate, the sides straight at the base, rounded in front of the middle, the disc with three deep impressions placed transversely near the base, the interspaces with a few punctures, the sides more closely punctured; elytra flattened, broadly subquadrate, regularly and deeply punctate-striate, the apices nearly impunctate, the interstices strongly longitudinally costate, especially near the sides, where they form acutely raised ridges, at the base a square-shaped fulvous spot extends to nearly the middle of each elytron, while a similar rather smaller spot is placed immediately below the middle, both are surrounded with a piceous margin, the rest of the elytra is of a pale testaceous colour, with the exception of the sutural and extreme lateral margins which are fulvous; underside and legs pale fulvous.

Hab. Panama, Volcan de Chiriqui (*Champion*).

A single specimen.

10. **Allochroma godmani.** (Tab. XXV. figg. 12, 13.)

Ovate, rufous; head closely, the thorax very remotely, punctured; antennæ (the two basal joints excepted) black; elytra black, strongly punctate-striate, the interstices longitudinally costate.

♂. The sixth joint of the antennæ thickened and elongate.

Var. Entirely fulvous; antennæ as in the type.

Length 2½–3 lines.

♂. Head closely punctured at the vertex; the frontal tubercles in the shape of a strongly-raised transverse ridge; antennæ half the length of the body, the two basal joints and the apical one fulvous, the rest black, the third joint elongate, the fourth and fifth joints short, not longer than the second, the sixth much thickened and the longest, the rest short and nearly equal in length; thorax twice as broad as long, the sides nearly straight, slightly flattened near the lateral margin, the surface without depressions, with a few fine very distantly placed punctures, rufous; scutellum fulvous or rufous; elytra much wider at the base than the thorax, with a deep depression placed transversely below the base, black, very strongly punctate-striate, the interstices, especially near the sides, costate; posterior femora strongly incrassate, extending to the apices of the elytra.

♀. The fifth and sixth joints of the antennæ widened and much longer than the following joints, but much

shorter than the corresponding joints in the male; the elytra very strongly costate throughout; the antennæ shorter.

Hab. MEXICO, Cordova, Orizaba (*Sallé*), Cerro de Plumas (*Höge*).

The dilated and elongate sixth joint of the antennæ in the male will assist in the recognition of *A. godmani*; the species seems to be subject to a good deal of variation in colour, and I must refer the variety to the same insect, as I cannot see any structural characters of distinction; the specimens from Cerro de Plumas are smaller, entirely fulvous, and have the elytral interstices very strongly costate.

11. **Allochroma coccineum.** (Tab. XXV. fig. 14.)

Allochroma coccineum, Clark, Cat. Halticidæ, p. 184 [1].

Hab. GUATEMALA, Panima, Teleman (*Champion*).—BRAZIL [1].

The differences between the Guatemalan insects and the type, which I have before me, are too slight to consider them as specific; the sixth joint of the antennæ in the male insect shows the same thickening as that of *A. godmani*. Clark says nothing about this in his description. The colour of the antennæ and that of the legs is variable: in the specimens from Teleman, the first six joints of the antennæ and the legs are fulvous like the entire insect; in the specimen from Panima the antennæ and the legs are piceous; in this last-named individual the elytra are finely punctured, and the interstices flat, in the others the latter are distinctly convex, and the punctuation is deeper; I believe, however, that these differences may be taken for local variations.

12. **Allochroma mexicanum.** (Tab. XXV. fig. 8.)

Fulvous, glabrous; antennæ (the two last joints excepted) black; thorax nearly impunctate; elytra with a few fine punctures below the base, and a spot before the middle of each, black.

Length 3 lines.

Head impunctate; the frontal tubercles strongly developed and transversely shaped, bounded behind by a deep transverse groove; antennæ not extending further than the base of the elytra, the second and fourth joints short and of equal length, the third longer and more slender, the intermediate joints widened, the two terminal ones fulvous; thorax subquadrate, one half broader than long, the sides perfectly straight, the surface almost impunctate, near the base on each side is a small shallow fovea; elytra with a distinct depression before the middle, finely punctured within this depression only, the rest of the surface impunctate, costate from the prominent shoulders to the first third of their length, and with a transverse black spot placed within the depressed portion; underside and legs entirely fulvous.

Hab. MEXICO, Jalapa (*Höge*).

Similar in coloration to *A. bimaculatum*, but at once distinguished by the almost entirely impunctate upper surface, and the colour of the antennæ and legs.

13. **Allochroma biplagiatum.** (Tab. XXV. fig. 16.)

Black, glabrous; the lower part of the face, the antennæ, the sides of the thorax, and the legs (the base of the posterior femora excepted), testaceous; thorax finely punctured; elytra black, finely punctate-striate, a round spot at the middle of each, obscure testaceous.

Length 1½ line.

Head with a very few fine punctures, the vertex black, the other portion testaceous, the frontal tubercles obsolete and divided by a short longitudinal groove, the carina short but acutely raised; penultimate joint of the palpi incrassate; antennæ half the length of the body, the sixth joint elongate and thickened, and stained like the preceding joints with obscure piceous spots, the rest flavous; thorax transverse, all the margins nearly straight, the surface very remotely and finely punctured, obscure testaceous, with a narrow central black band from the base to the apex; scutellum black, punctured; elytra with a distinct transverse depression below the base, not very closely and rather finely punctate-striate, the punctuation gradually diminishing towards the apices, black, shining, with a large round obscure testaceous spot at the middle, the surface of which is slightly raised; posterior femora black, their apices only, as well as the other legs, testaceous, the inner margin of the anterior femora and tibiæ stained with piceous.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

Only a single specimen of this pretty little species was obtained.

14. **Allochroma flavonotatum.** (Tab. XXV. fig. 15.)

Obscure testaceous; thorax nearly impunctate, trifoveolate; elytra deeply punctate-striate, obscure testaceous, each with a pale flavous spot, surrounded with black, at the middle.

Length $1\frac{3}{4}$ line.

Head impunctate, deeply transversely grooved; palpi moderately robust; antennæ more than half the length of the body, obscure fulvous, the joints (with the exception of the third, which is slightly longer) of nearly equal length in the male, the apical joints much shorter in the female; thorax not more than one half broader than long, the sides perfectly straight, a little constricted near the base, the angles acute and furnished each with a single hair, the surface impunctate, with three rather deep foveæ placed close to the basal margin; scutellum impressed at the base; elytra slightly depressed below the base, deeply punctate-striate, the interstices slightly convex in the female, furnished here and there with single stiff hairs, of an obscure testaceous colour, with a transverse pale flavous spot, bounded in front and behind by a black or piceous band of a semicrescent shape (generally connected at the suture but not at the lateral margin), at the middle of each elytron; underside and legs testaceous.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

The anterior dark band of the elytra, when it is strongly marked, extends to the base, leaving only a small space surrounding the scutellum of the ground-colour; the margins of both the black bands are deeply dentate.

15. **Allochroma posticatum.** (Tab. XXV. fig. 11.)

Glabrous, fulvous; antennæ, the base of the head, and two or three longitudinal bands on the thorax, black; elytra strongly punctate-striate, fulvous, a sutural and a lateral spot anteriorly, and the posterior half of each, black.

Length 2 lines.

Head with a few punctures and a fovea at the middle of the vertex, the latter either entirely black or fulvous with a black spot, the anterior portion, and the very strongly raised frontal tubercles, fulvous; antennæ thickened at the terminal joints, black, the five basal joints thinner, glabrous, and obscurely stained with fulvous below; thorax transversely subquadrate, twice as broad as long, the sides perfectly straight, the surface with a transverse depression (which extends some distance upwards at the sides) near the base, another longitudinal more or less distinct groove may be seen close to the lateral margin, the disc with some remotely placed punctures, fulvous at the middle, and at the extreme sides a longitudinal black stripe extends from the base to the apex; scutellum black; elytra wider at the base than the thorax, slightly narrowed towards the apices, depressed near the suture below the base, distinctly punctate-striate, the punctuation diminishing posteriorly from the base to nearly the middle, with three longitudinal marks, one at each shoulder, widened behind, and joined near its apex to a similar sutural mark (the points of these marks are deeply dentate, forming three acute projections), and the portion from below

the middle to the apices entirely, black; four anterior legs black, the others, as well as the underside, fulvous.

Hab. PANAMA, Volcan de Chiriqui, Bugaba (*Champion*).

In some specimens the thoracic bands are more obsolete, and may probably disappear altogether; the species may be known by the posterior black portion of the elytra.

16. **Allochroma castaneum.** (Tab. XXV. fig. 17.)

Dark chestnut-brown, glabrous; the seventh and eighth joints of the antennæ piceous, thickened; thorax transverse, remotely punctured; elytra with a basal depression, strongly punctate-striate.

Length 2 lines.

Head with a few extremely minute punctures; the frontal elevations transverse, contiguous anteriorly, but posteriorly divided by a short groove; clypeus deflexed in front; palpi incrassate; antennæ stout, fulvous, the sixth joint thickened and longer than the preceding or following joint; thorax transverse, subquadrate, the sides scarcely rounded, the anterior angles oblique, the disc with a longitudinal depression on each side, the surface very remotely punctured; scutellum broad, impunctate; elytra ovate, deeply depressed below the base, the punctuation near the apices remote and scarcely visible, the anterior portion strongly punctured; posterior tibiæ armed with a double spur.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

I have only a single specimen of this species before me; it is much smaller than *A. coccineum* and differs in the colour of the antennæ and the legs.

17. **Allochroma guatemalense.**

Dark fulvous, glabrous; the intermediate joints of the antennæ black; thorax with a few fine punctures; elytra with a deep basal depression, strongly punctate-striate.

♂. The sixth joint of the antennæ thickened and elongate.

♀. Antennæ simple, the elytra costate at the sides.

Length $1\frac{1}{2}$–2 lines.

Head impunctate; antennæ half the length of the body, the five lower and the two terminal joints fulvous, the others black, the sixth joint strongly swollen and elongate; thorax transverse, more than twice as broad as long, the sides perfectly straight, the surface without or with a few very fine punctures; elytra with a distinct transverse depression below the base, moderately strongly punctate-striate, the punctuation becoming less deep towards the apices; posterior tibiæ armed with a double spur.

Hab. GUATEMALA, Zapote, San Isidro (*Champion*).

In coloration *A. guatemalense* agrees with *A. coccineum*, from which the male of the present species differs in the dilated sixth joint of the antennæ, and the female by the costate sides of the elytra; the species seems also to be smaller in size. The antennæ usually have the last two joints fulvous; in some examples, however, only the last is so coloured.

18. **Allochroma intermedium.**

Ovate, convex, glabrous; rufous, the six lower joints of the antennæ, and the anterior legs, testaceous; joints seven to ten of the antennæ black; thorax finely punctured; elytra closely and distinctly punctate-striate.

Length 2 lines.

Hab. PANAMA, Bugaba (*Champion*).

Whether this insect is really distinct from *A. coccineum*, or represents only the other sex seems to me doubtful; there are three specimens from the same locality before me which all differ in the much smaller size and less elongate, more rounded and convex shape, resembling closely a species of the genus *Sparnus* or *Cyrton*. The antennæ (though rather shorter) are identical in structure and colour with those of *A. coccineum*, and the same may be said of the thorax, but the elytra are more finely punctured and devoid of any costæ; the colour of the legs also differs from that of *A. coccineum*, being pale testaceous, like the lower part of the face and the six basal joints of the antennæ. Having no intermediate forms before me, I think it right to consider *A. intermedium* as distinct from *A. coccineum*.

19. **Allochroma semipunctatum.**

Black, glabrous; head, thorax, the six basal joints and the apical one of the antennæ, the anterior legs, and the posterior tibiæ, obscure fulvous; elytra black, very finely punctured anteriorly.

Length 2 lines.

Head impunctate; the frontal tubercles narrowly transverse, bounded behind by a deep groove; clypeus testaceous; labrum and palpi piceous; antennæ distinctly incrassate towards the terminal joints, the fourth and fifth joints of equal length and shorter than the third, the five lower joints fulvous, the five following ones black, the last joint reddish fulvous; thorax transverse, more than twice as broad as long, the sides straight, the anterior margins not produced, the surface smooth and impunctate, glabrous; scutellum broad, piceous; elytra with a distinct transverse depression below the base, black, finely but distinctly punctate-striate, the punctuation almost obsolete below the middle; femora piceous, the tibiæ and tarsi fulvous.

Hab. Mexico, Cerro de Plumas (*Höge*).

The single specimen of this species before me is distinguished from its allies by the impunctate thorax, the finely punctured elytra, and the colour of the antennæ.

20. **Allochroma fulvoplagiatum.**

Black; head and thorax fulvous; the basal and terminal joints of the antennæ fulvous, the sixth joint thickened; elytra finely punctate-striate, black, a transverse band at the middle of each, fulvous.

Length $1\frac{1}{2}$ line.

Hab. Mexico, Jalapa (*Höge*).

This species, of which but a single specimen was obtained, seems to be most nearly allied to *A. semipunctatum* (with which it also agrees in size), and it is possible that *A. fulvoplagiatum* represents but the male of that species. It differs in the colour of the antennæ (fulvous, with the exception of the seventh, eighth, and ninth joints, which are black), and also by the elongate and thickened sixth joint; and in the colour of the elytra. The punctuation and the shape of the head and thorax is the same as in *A. semipunctatum*; the elytra in the present species are, however, more deeply depressed below the base and entirely black, and the fulvous transverse band is placed at the middle and extends to the lateral, but not to the sutural, margin.

21. **Allochroma puncticolle.**

Broadly oblong-ovate, obscure testaceous, glabrous; the sixth to the tenth joints of the antennæ black; head and thorax coarsely punctured; elytra deeply punctate-striate, the interstices costate, the base strongly swollen.

Length 2–2½ lines.

Head irregularly and coarsely punctured at the vertex; the frontal tubercles broadly trigonate, bounded behind by a deep groove; the penultimate joint of the palpi slightly thickened; antennæ distinctly incrassate at the terminal joints, the five basal joints fulvous, the five following ones black, the terminal joint reddish fulvous; thorax twice as broad as long, subquadrate, the anterior angles obliquely thickened, the surface coarsely and deeply, as well as irregularly but not very closely, punctured; scutellum broad; elytra with the basal portion strongly raised, the surface longitudinally costate throughout, the interstices deeply punctured.

Hab. GUATEMALA, Purula (*Champion*).

In the costate and deeply punctured elytra, *A. puncticolle* agrees with *A. godmani* and *A. guatemalense*; I must, however, separate it on account of the very coarse punctuation of the head and thorax, which punctuation is not to be found in any other species of the genus known to me.

22. **Allochroma frontale.**

Piceous, glabrous; lower part of the face, the thorax, legs, and antennæ, testaceous; elytra very strongly punctate-striate, the disc dark brown, a narrow lateral longitudinal band (nearly extending to the apices) pale testaceous.

Var. Above obscure testaceous, the extreme apices of the elytra piceous.

Length 1½–2 lines.

Head with a few fine punctures at the vertex, the latter convex, piceous; the lower part of the face testaceous; labrum piceous; antennæ half the length of the body, robust, piceous or entirely testaceous, the sixth and seventh joints thickened, of equal length, and longer than the preceding ones; thorax transversely subquadrate, twice as broad as long, the sides slightly narrowed at the base, the anterior angles somewhat thickened, and each furnished with a single very long hair, the surface not visibly punctured, slightly depressed at the base; scutellum broader than long; elytra rather flattened, very strongly and closely punctate-striate, the interstices strongly costate near the sides, the entire disc dark or paler brown or fuscous, this colour bounded near the lateral margin by a narrow pale testaceous band which curves round near the apices to the suture, leaving the extreme apex of each elytron of the ground-colour; underside piceous, the last abdominal segments sometimes pale; posterior tibiæ armed with a double spur; the claws appendiculate.

Hab. PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).

In intensity of colour many degrees of variation are to be found in this species: the paler portions, including the elytral bands, being sometimes nearly white, and the head in some specimens entirely testaceous. The antennæ also vary in colour; in the female they are simple, without thickened sixth and seventh joints.

23. **Allochroma nigroplagiatum.** (Tab. XXV. fig. 18.)

Ovate, glabrous, obscure testaceous; the breast and the apical joints of the antennæ black; thorax with three black spots; elytra closely punctate-striate, testaceous, each with six black spots (2 . 2 . 1 . 1).

Length 2 lines.

Head impunctate, the extreme base and an obscure central spot at the vertex, black; the frontal elevations

transverse, rather flattened; antennæ thickened at the terminal joints, the five basal joints testaceous, the five following ones black, the apical joint fulvous, the third joint long and slender; thorax nearly three times as broad as long, the sides straight, the surface very remotely punctured, obscure testaceous, with two large blackish spots near the base and a smaller one near the anterior margin; elytra widened towards the middle, strongly and rather closely punctate-striate, the interstices obsoletely, longitudinally costate near the sides, each elytron with a black spot at the shoulders, one close to the scutellum, two others placed obliquely a little lower down and in a line with the basal spots, a transverse larger spot at the middle, and another near the apex; underside testaceous, the legs a little darker; posterior tibiæ armed with a double spur; the inner margin of the elytral epipleuræ at the posterior portion black.

Hab. GUATEMALA, Zapote (*Champion*).

CERICHRESTUS.

Cerichrestus, Clark, Cat. of Halticidæ, p. 194 (1860).

Ten species, all from Tropical South America, were placed in this genus by Clark. These agree in having the upper surface densely pubescent, the antennæ often dilated at their intermediate joints, incrassate palpi, and a double spur at the apices of the posterior tibiæ. The only Central American species known to me has a rather peculiar facies on account of the medially dilated antennæ, and the peculiar colour of the pubescence, giving it somewhat the appearance of a species of the family Lycidæ, of the Malacodermata; other species of *Cerichrestus* approach, however, very closely to *Allochroma*, from which they can only be separated with difficulty, the structural generic characters being almost identical.

1. **Cerichrestus clarki.** (Tab. XXVI. fig. 3.)

Oblong, slightly widened behind, black; sides of the thorax, and of the elytra anteriorly, fulvous; posterior tibiæ and tarsi testaceous.

Var. *a*. Elytra fulvous, the suture and the posterior third black.

Var. *b*. Elytra entirely black.

Length 2–3 lines.

Head black, the vertex finely rugose; clypeus entirely flavous; labrum black, with a transverse row of four punctures; antennæ rather robust, longer in the male than in the female, black, the intermediate joints slightly widened and nearly equal in length; thorax not more than one half broader than long, the sides straight, the angles acute and each furnished with a single hair, the surface opaque and scarcely visibly punctured, the sides occupied by a longitudinal band of bright fulvous pubescence, the middle of the disc black and with a more or less distinct smooth central ridge; scutellum black; elytra opaque, regularly punctate-striate, the interstices slightly convex, the sides from the shoulder to below the middle (in the shape of a gradually attenuated margin) clothed with fulvous pubescence like the thorax; legs black, the underside of the anterior femora more or less testaceous, the posterior tibiæ entirely of that colour, the claw-joint blackish.

Hab. PANAMA, Bugaba (*Champion*).

Evidently very closely allied to *C. balyi*, Clark, from Brazil, but differing in the colour of the head, and in that of the antennæ, and in the want of a thoracic transverse basal depression; the narrow central thoracic ridge in *C. clarki* will further assist in the recognition of the species. The varieties with either entirely or partially black elytra prove that no great dependence can be placed on colour in these insects.

OMOTOTUS.

Omototus, Clark, Cat. of Halticidæ, p. 208 (1860).

More than twenty species of this genus, all from Tropical South America or the Antilles, have been described by Clark. In appearance *Omototus* resembles many species of *Octogonotes*, *Allochroma*, and *Cerichrestus*; the posterior tibiæ, however, are distinctly armed with a single spur, and the thorax has the sides perfectly straight, while the close and thick pubescence of the elytra distinguishes the genus from most species of *Allochroma*. No species has been described from any part of Central America till now.

1. **Omototus discoidalis.**

Rufous; the terminal joints of the antennæ black, dilated; head and thorax closely granulate-punctate; elytra sparingly pubescent, rufous, the middle of the disc piceous.

Length 2 lines.

Head scarcely longer than broad, the vertex closely granulate-punctate; the frontal tubercles small, but strongly raised; palpi incrassate; antennæ rather short, the five terminal joints slightly thickened, short and black, the others fulvous; thorax slightly broader than long, the sides straight, the surface obsoletely and longitudinally depressed at the sides and at the middle, closely granulate-punctate, sparingly clothed with yellow pubescence; elytra broad, strongly punctate-striate, clothed with longer (and at the sides more dense) pubescence than the thorax, the base and the margins rufous, the rest of the surface piceous; posterior tibiæ armed with a single spur.

Hab. PANAMA, Volcan de Chiriqui (*Champion*). A single specimen.

At once distinguished from any of the other species of the genus *Omototus* by the coloration of the upper surface.

2. **Omototus albomaculatus.** (Tab. XXVI. fig. 15.)

Subquadrate, brownish fuscous, clothed with yellow pubescence; the seventh and eighth joints of the antennæ white; thorax bituberculate; elytra deeply punctate, each with three transverse rows of white spots, the intervals costate.

Length $1\frac{1}{2}$–2 lines.

Head rugose-punctate, with an obsoletely raised tubercle at the middle of the vertex; the clypeus and labrum smooth, obscure fulvous, shining; palpi strongly incrassate; antennæ short, the terminal joints thickened, the six lower joints fuscous or piceous, the two following ones white, the three terminal joints fuscous; thorax transversely subquadrate, the sides straight, the angles not produced, the anterior ones furnished with a single hair, the surface near the anterior margin raised in the form of two large tubercles, scarcely visibly punctured, and sparingly clothed with golden-yellow pubescence, which is more apparent at the basal and lateral margins; scutellum triangular, its apex acutely pointed; elytra much broader than the thorax, the base distinctly raised, the surface longitudinally costate throughout, the interstices strongly and closely punctured, clothed with thin yellowish pubescence (more marked and forming a narrow yellow stripe along the suture) each elytron with three transverse rows of irregularly placed white pubescent spots, of which one row is situated immediately below the basal elevation, the second below the middle, and the third near the apex; the femora covered with yellow and white pubescence; posterior tibiæ with a single spur.

Hab. NICARAGUA, Chontales (*Janson*); PANAMA, Bugaba, Volcan de Chiriqui, David (*Champion*).

From all the closely allied forms contained in the genus *Omototus* the present species may be separated principally by the small white elytral spots, which, although varying in intensity, are always placed in three rows; the intermediate spots of the first row are not situated in a line with those at the sides but higher up; and the middle spots of the other two rows are equally displaced, generally one above and another below the line. The general colour of the upper surface is a very dark brown, sometimes nearly black.

IDMOSYNE.

Hydmosyne, Clark, Cat. of Halticidæ, p. 172 (1860); Harold, Col. Hefte, xiii. p. 25 (1875).
Idmosyne, Gemm. & Harold, Cat. xii. p. 3542.

The incrassate palpi, double-spurred posterior tibiæ, and bifid claws are the generic distinctive characters of *Idmosyne*. I refer two species from Nicaragua and the State of Panama to this Tropical-American genus.

1. **Idmosyne clarki.** (Tab. XXVI. fig. 8.)

Fulvous; anterior tibiæ black; thorax fulvous, closely granulate and finely pubescent; elytra metallic blue, thinly clothed with whitish pubescence, finely punctate-striate.

Var. Head, antennæ, and the four anterior legs black.

Length 3–3½ lines.

Head rather strongly and closely punctured, black; the frontal tubercles rugosely punctured, strongly raised, transverse; the labrum margined with testaceous, rather deeply punctate; palpi robust; antennæ rather long, filiform, the third and fourth joints nearly equal and the longest; thorax more than twice as broad as long, the sides subangulate before the middle, the anterior angles acute and each furnished with a single hair, the surface with an obsolete lateral depression at each side, closely granulate-punctate, reddish fulvous; scutellum testaceous; elytra evidently depressed below the base, distinctly punctate-striate, the punctuation distinct to the apices, of a light metallic blue or violaceous colour, clothed with thin whitish pubescence, the interstices extremely finely punctured; underside and the posterior legs fulvous, the anterior legs black or their tibiæ only of that colour; posterior tibiæ armed with a double spur; claws bifid.

Hab. NICARAGUA, Chontales (*Belt*); PANAMA, Volcan de Chiriqui (*Champion*).

As I am unable to find any difference, beyond that of coloration, between the specimens from the above localities, I think I do not err in referring all to one species, which may be known by the granulate and opaque surface of the head and thorax. In *I. clarki* the thorax is angulate at the sides, a character supposed to be strange to the genus *Idmosyne*, but peculiar to *Octogonotes*; in the latter genus, however, the claws are not bifid but appendiculate; rather than establish another genus I have placed the present insect in *Idmosyne*.

2. **Idmosyne panamensis.** (Tab. XXVI. fig. 9.)

Fulvous, pubescent; head distinctly, the thorax extremely finely, punctured; elytra metallic blue or green, thinly clothed with whitish pubescence, finely punctate-striate.

Var. Antennæ and the anterior tibiæ piceous.

Length 3–4 lines.

Head strongly and closely punctured, clothed with a few yellowish hairs; the frontal tubercles scarcely raised, but divided by a deep groove; the clypeus strongly raised in front; the palpi robust; antennæ two thirds the length of the body in the male, shorter in the female, fulvous, the apices of the terminal joints obscurely tinged with fuscous, the third joint longer than the first, the four terminal ones shortened; thorax subquadrate, twice as broad as long in the male, broader in the female, fulvous, shining, thinly clothed with yellowish hairs, the sides nearly straight, the anterior angles acute, not oblique, the surface obsoletely depressed near the base, very minutely punctured; scutellum fulvous; elytra with a very obsolete depression below the base, bright metallic blue, clothed with thin but rather long whitish pubescence, the punctuation very distinct anteriorly, but nearly disappearing towards the apices; posterior tibiæ armed with a double spur; claws bifid.

Hab. PANAMA, Bugaba (*Champion*).

I. panamensis is easily separated from the preceding species by the shining, not granulate, thorax, and by the colour of the head. In the male insect the posterior femora extend nearly to the apices of the elytra; in the female they are shorter.

OCTOGONOTES.

Octogonotes, Drapiez, Ann. gén. Sc. phys. Brux. iii. p. 184 (1819); Clark, Cat. of Halticidæ, p. 158; Chevrol. d'Orbigny, Dict. d'Hist. Nat. p. 716; Dejean, Cat. 3rd ed. p. 407.

The species placed in *Octogonotes* are nearly all of large size, and distinguished by the angulate (though not eight-sided) thorax and the generally close and brightly coloured pubescence. The claviform palpi, the double spur at the apices of the posterior tibiæ, and the appendiculate claws, further distinguish this genus.

The six species described by Clark are all from Tropical South America; we have now to record two from Central America.

1. **Octogonotes rufipennis.** (Tab. XXVI. fig. 10.)

Below testaceous, above rufous; antennæ and the anterior tibiæ fulvous; head and thorax closely granulate-punctate; elytra distinctly punctate-striate anteriorly, clothed with thin yellowish pubescence.

Length 3 lines.

Head very strongly and closely punctured, especially near the sides; the lower part of the face testaceous; palpi but moderately incrassate; antennæ half the length of the body, the third joint slender and the longest, the two following joints nearly equal, the rest shorter and of equal length, pale or darker fulvous; thorax twice as broad as long, the sides forming a distinct angle immediately before the middle, the anterior angles acutely pointed, the surface with a very shallow depression at the sides near the base, rugosely and closely punctured, like the head; scutellum testaceous; elytra with a very obsolete depression below the base, strongly punctured anteriorly, the apices nearly impunctate, the punctuation arranged (as usual) in rows but not in striæ, the interstices near the sides slightly raised, the entire surface thinly clothed with fulvous pubescence; posterior tibiæ armed with a double spur; claws appendiculate.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

The entirely rufous colour of the upper side, in connection with the rugosely punctured head and thorax, well distinguish *O. rufipennis* from its allies.

2. **Octogonotes fulvomarginatus.** (Tab. XXVI. figg. 4, 11, 12.)

♂. Below fulvous; head rugose-punctate, the vertex black; antennæ scarcely thickened; thorax angulate at the sides, piceous, margined with fulvous; elytra clothed with yellow pubescence, piceous, the margins narrowly fulvous.

♀. Antennæ incrassate at the terminal joints; thorax more transverse than in the male.

Var. *a*. Elytra fulvous, a spot at the base and another near the apices piceous.

Var. *b*. Entirely fulvous, the sixth to the tenth joints of the antennæ black. (♀.)

Length 2 lines.

Head strongly rugose-punctate at the vertex, the latter with a triangular black spot; antennæ rather robust, half the length of the body, fulvous, stained with fuscous, the third and fourth joints of equal length, rather long, the apical joints much shorter; thorax twice as broad as long, the sides strongly angulate at the middle, the surface with three obsolete tubercles, depressed near the base and at the sides, rugosely punctured, piceous, the lateral margin rather broadly fulvous, the disc thinly clothed with short yellow pubescence; scutellum fulvous; elytra distinctly depressed below the base, clothed with long yellow pubescence, rather strongly punctate-striate, the disc with a longitudinal broad piceous or black band from the base to the apices, the margins narrowly fulvous; posterior tibiæ with a double spur; claws somewhat appendiculate, the inner division rather long.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

O. fulvomarginatus is well distinguished by its coloration and the sculpture of the thorax; in the variety *a* the elytral black bands are interrupted medially, so as to form a basal and apical spot. The specimen I refer to the female differs, apart from the coloration, in the incrassate terminal joints of the antennæ and the much more transversely-shaped thorax; it agrees in all other respects with the male insect.

METRIOTES.

Metriotes, Clark, Cat. of Halticidæ, p. 226 (1860).

Like *Monoplatus*, *Metriotes* is distinguished from all other genera of this section of the Halticinæ by the dentate exterior margin of the posterior tibiæ; it differs, however, from *Monoplatus* in the incrassate (not filiform) palpi and the want of the thoracic groove.

The genus was established upon a single species (*M. robinsoni*) from Rio Janeiro; we now add three others from Central America.

1. **Metriotes nigricollis.** (Tab. XXVI. fig. 5.)

Black, glabrous; head and thorax impunctate; elytra metallic blue or violaceous, depressed below the base, distinctly punctate-striate.

Length 3 lines.

Head entirely impunctate; the frontal tubercles narrowly elongate, bounded behind by a fovea, not by a transverse groove; labrum obscure dark fulvous; the penultimate joint of the palpi incrassate; antennæ slender, half the length of the body, black, the fifth joint slightly longer than the two preceding ones, which are equal; thorax twice as broad as long, black, very shining, all the margins perfectly straight, the angles not produced and scarcely thickened, the surface with an obsolete transverse shallow depression near the base and entirely impunctate; scutellum black; elytra with a distinct depression below the base, the latter slightly swollen, the surface regularly and distinctly punctate-striate, the interstices rather

convex near the apices; underside and legs black, glabrous; the upper margins of the posterior tibiæ armed with a row of small teeth; claws appendiculate.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

2. **Metriotes flavicollis.**

Pale flavous or flavous, glabrous; antennæ nearly as long as the body; head and thorax impunctate; elytra metallic violaceous blue, strongly punctate-striate, depressed below the base.

Length 2–2¼ lines.

Head impunctate, the vertex with a short longitudinal central fovea; the frontal tubercles strongly developed, elongate, not limited behind by a transverse groove; the lower part of the face concave, testaceous; antennæ more than two thirds the length of the body, fulvous, the fifth joint slightly longer than the two preceding ones; thorax of exactly the same shape as in *M. nigricollis*, the surface impunctate, transversely depressed along the base, fulvous or flavous; scutellum flavous; elytra much more strongly and more closely punctured than in *M. nigricollis*, especially within the basal depression, the extreme apices nearly impunctate; underside and legs flavous; the posterior tibiæ armed at their upper margin with a row of small teeth.

Hab. PANAMA, Bugaba (*Champion*).

3. **Metriotes apicicornis.** (Tab. XXVI. fig. 6.)

Black or piceous below; the four last joints of the antennæ fulvous, the vertex black, the lower part of the face and the thorax flavous; elytra metallic green or blue, moderately strongly punctured.

Length 3 lines.

Head with a small fovea at the vertex, the latter entirely or partly piceous or black; the frontal tubercles elongate, strongly raised; the space at the inner sides of the eyes with a few punctures; the palpi black; antennæ rather more than half the length of the body, the third and fourth joints equal, the first seven joints black, the rest fulvous; thorax of the same shape as in *M. flavicollis*, the anterior angles each furnished with a single long hair, the surface flavous, impunctate, depressed near the base; scutellum flavous; elytra with a distinct depression below the base, the punctuation very distinct but not very strongly impressed, the interstices flat; posterior tibiæ armed with a row of teeth, their apices with a double spur.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

Separated from *M. flavicollis* by its larger size, and by the colour of the head and antennæ.

SPARNUS.

Sparnus, Clark, Cat. of Halticidæ, p. 265 (1860).

The single species (*S. globosus*), from the Amazons, on which *Sparnus* was established differs from any of the preceding or following genera by the general roundly ovate shape of its body, in connection with the glabrous upper surface and the dilated antennæ. According to Clark, the genus *Cyrton*, although of similar shape, is distinguished from *Sparnus* by the simple, not appendiculate claws.

I refer to this genus three species from Central America; these are all furnished with appendiculate claws. The range of the genus is from Nicaragua to the Amazons valley.

1. **Sparnus chiriquensis.** (Tab. XXVI. fig. 23.)

Broadly ovate, dark reddish fulvous; the six apical joints of the antennæ black; the extreme lateral margin of the elytra and the tarsi testaceous; thorax remotely punctured; elytra deeply punctate-striate.

Length 2 lines.

Head impunctate, the frontal tubercles divided by a deep longitudinal groove; the palpi moderately incrassate; antennæ less than half the length of the body, the third joint the longest, the last six joints transverse, short and black; thorax about three times as broad as long, the sides very slightly rounded before the middle, the posterior margin sinuate and broadly rounded and produced near the middle, the anterior angles obliquely rounded, the surface without depressions, distantly punctured; elytra very convex, without a basal depression, very strongly punctate-striate, of a reddish fulvous colour (like the rest of the body), the extreme lateral margin thickened, testaceous; posterior tibiæ with a double spur.

Hab. PANAMA, Volcan de Chiriqui (*Champion*). A single specimen.

It seems to me that the length of the posterior femora and tibiæ, which served Clark as a distinguishing character between the genus *Sparnus* and *Cyrton*, is of little, if any, value, as the sexes frequently differ in that respect in the same species; the simple or appendiculate claws are, however, characters which may be used with advantage.

2. **Sparnus apicalis.** (Tab. XXVI. fig. 24.)

Subglobose, glabrous, convex, below fulvous; lower part of the face, the antennæ, and tibiæ flavous; head and thorax black; elytra sanguineous, their apices black; femora black.

Length $1\frac{1}{2}$–2 lines.

Head with a small fovea at the middle of the vertex, the latter with a few minute punctures, black; the lower part of the face testaceous; palpi incrassate; antennæ half the length of the body, the first joint thickened, the third joint longer than the first, the two following ones nearly equal in length, the sixth joint thickened, longer and of cylindrical shape, the rest short; thorax three times as broad as long, the sides nearly straight, the anterior angles obliquely truncate, the surface nearly impunctate, black, the basal margin stained with rufous; elytra without a basal depression, regularly and strongly punctate-striate, the apices nearly impunctate, of a bright blood-red colour, the apices with a transverse, triangularly-shaped black band; femora black, the posterior ones sometimes rufous below; posterior tibiæ armed with a single strong spur; claws appendiculate.

Hab. PANAMA, Bugaba (*Champion*).

In one specimen, probably immature, the colour of the elytra is flavous instead of red, but the apices are as in the typical form.

3. **Sparnus flavicollis.** (Tab. XXVI. fig. 25.)

Broadly ovate, glabrous, flavous; head and thorax impunctate; elytra bright red, shining, finely punctate-striate, the interstices obsoletely costate; legs flavous, the posterior femora red.

Length 2 lines.

Head impunctate, transversely grooved between the eyes; the frontal tubercles scarcely indicated; palpi moderately thickened at the penultimate joint; antennæ flavous, stout and rather short, the first joint very stout, the third rather shorter and thinner, the fourth much shorter than the preceding, the two following joints thicker and longer, the rest short, gradually thickened; thorax three times as broad as long, the sides angulate before the middle, the surface flavous, impunctate; scutellum flavous; elytra with a very slight depression below the base, closely punctate-striate, the interstices obsoletely and longi-

tudinally costate; legs flavous; posterior tibiæ with a double spur; abdomen stained with fulvous; the posterior femora of the same colour as the elytra; claws appendiculate.

Hab. NICARAGUA, Chontales (*Belt*). A single specimen.

The subangulate sides of the thorax are not to be found in the other species which constitute this genus; but, as the general shape, the structure of the antennæ, and the double spur to the posterior tibiæ, as well as the appendiculate claws, are characteristic of *Sparnus*, I have placed the present insect in that genus.

ZETETICUS.

Peribleptus, Clark, Cat. of Halticidæ, p. 155 (1860) (nomen præoc.).
Zeteticus, Harold, Col. Hefte, xiv. p. 213 (1875).

This genus, the original name of which was changed by Von Harold on account of having been employed before, was established by Clark upon a Brazilian species (*Z. lævigatus*), which is characterized by incrassate palpi, subangulate sides of the thorax, and bifid claws. All these structures are present in a single species obtained in the State of Panama; I have therefore no hesitation in placing it in the present genus.

1. **Zeteticus panamensis.** (Tab. XXVI. fig. 7.)

Broadly oblong-ovate, semipubescent, fulvous; antennæ black; head coarsely, the thorax finely, punctured; elytra metallic blue, distinctly punctate-striate, the interstices finely punctured.

Length 4 lines.

Head strongly and closely punctured; the frontal tubercles not strongly raised, and divided by a deep longitudinal groove; the third joint of the palpi transversely incrassate, the apical one conical; antennæ filiform, black (the three apical joints are wanting), the third joint the longest; thorax nearly three times as broad as long, the sides very obtusely angulate before the middle, the anterior angles acute, the surface with a rather deep transverse depression across the disc, giving prominence to the anterior portion, which is furnished with two small and very obsolete tubercles, the disc finely and rather closely punctured, obsoletely pubescent near the posterior angles and at the sides; scutellum fulvous, pubescent; elytra very obsoletely depressed below the base, distantly punctate-striate, the interstices also very finely punctured and wrinkled, clothed with a few whitish hairs at the sides and at the apices; underside and legs fulvous, the intermediate tibiæ piceous at their apices; posterior tibiæ armed with a single spur; claws bifid.

Hab. PANAMA, Bugaba (*Champion*). A single specimen.

MONOPLATUS.

Monoplatus, Clark, Cat. of Halticidæ, p. 2 (1860).

Monoplatus is perfectly well characterized and comparatively easy of recognition on account of the transverse thoracic groove and the dentate margin of the posterior tibiæ; this latter character seems to me, however, subject to variation in regard to intensity, and is almost obsolete in some species. *Monoplatus* and the following genera are

further distinguished by the more or less filiform palpi, although in that respect instances are not wanting in which intermediate degrees in the shape of these organs make their classification, according to Clark's monograph, very doubtful.

Amongst the eighteen species described by Clark from Tropical America none were known to him from our region, from whence we now add two species.

1. Monoplatus fulvus.

Monoplatus fulvus, Baly, Trans. Ent. Soc. 1879, p. 254[1].

Hab. MEXICO, Ciudad in Durango (*Forrer*); GUATEMALA, Cerro Zunil (*Champion*); PANAMA, Volcan de Chiriqui (*Champion*).—PERU, Chanchamayo[1].

I have carefully compared the type of *M. fulvus* (contained in the Baly collection) with the specimens obtained at the above localities, and find our insect to be undoubtedly identical with that species. *M. fulvus* is evidently a species subject to considerable variation, some specimens being at least one half larger than others; in a few examples the suture shows an elongate triangular piceous spot or narrow band near the base. The single specimen from Mexico has the thorax much more closely and evenly punctured, but I cannot find any other marks of distinction. *M. fulvus* may be known from its allies by its depressed upper surface, the want of any depressions between the eyes, the punctured head and thorax, and the sinuate transverse groove of the latter; and also by the distinctly toothed posterior tibiæ, a character much more plainly visible than in many other species of the genus I have examined. Some specimens agree absolutely with the type, and intermediate degrees are not wanting.

2. Monoplatus quadraticollis.

Entirely fulvous, glabrous; head nearly impunctate; thorax subquadrate, extremely finely punctured, with a transverse groove near the base; elytra closely and distinctly punctate-striate, the base with an obscure greenish-æneous spot.

Length 1½ line.

Head rather broader than long; the vertex with a few extremely minute punctures; the frontal tubercles scarcely raised; antennæ rather more than half the length of the body, the second and third joints small and of nearly equal length, the following joints elongate; thorax subquadrate, all the margins straight, the surface closely and extremely finely punctured, the basal groove distinct and placed close to the margin; elytra with the basal portion very slightly raised and of a metallic greenish æneous colour, the rest of the surface pale fulvous, closely and distinctly punctate-striate, the punctuation diminishing, however, in depth towards the apices; posterior femora rather elongate, extending slightly beyond the elytra.

Hab. GUATEMALA, San Gerónimo (*Champion*). A single specimen.

The nearly impunctate head and the finely punctured and subquadrate thorax well distinguish *M. quadraticollis* from *M. fulvus*, to which in its general coloration it is closely allied. It is probable that the amount of the metallic greenish colour of the elytra is subject to variation.

RHOICUS.

Roicus, Clark, Cat. Halticidæ, p. 22 (1860).
Rhoicus, Gemm. & Harold, Cat. xii. p. 3535.

This genus contains but a few species, of comparatively large size, characterized by the filiform palpi, the rather long thorax, the sides of which are angulate before the middle, and by the posterior tibiæ being armed with a single spur only. Only a single species (*R. sexmaculatus*), from the Amazons, was known to Clark; three others have been since described. We now add three more from the State of Panama.

1. **Rhoicus unifasciatus.** (Tab. XXVI. fig. 2.)

Oblong, subdepressed, glabrous; the base of the head, the apical joints of the antennæ, and the femora, testaceous; thorax piceous, margined with testaceous; elytra very finely punctate-striate, piceous, a transverse band before the middle, and the extreme apices, testaceous.

Length 4 lines.

Head elongate, rugose-punctate at the vertex, the extreme base of the latter and the clypeus piceous, the middle portion and the labrum testaceous; the frontal tubercles narrow and elongate, the carina very acutely raised and long; antennæ slender, scarcely half the length of the body, the two basal joints piceous, the three or four following ones black, the rest testaceous, the third joint the longest, the fourth, fifth, and sixth joints equal; thorax scarcely broader than long, the sides distinctly angulate before the middle, the anterior angles slightly thickened and each furnished with a single hair, the surface transversely depressed near the base, impunctate, the disc piceous, the margins testaceous; elytra extremely finely punctured, piceous, shining, a narrow transverse slightly oblique band (placed before the middle), and the extreme apex, testaceous; the breast, tibiæ, and tarsi, black, the other portions of the underside, together with the femora and the upper sides of the posterior tibiæ, testaceous; the posterior femora with a roundish black spot at their apices on the outer side.

Hab. PANAMA, Bugaba (*Champion*). A single specimen.

The claws in this as well as in the other species placed in *Rhoicus* are appendiculate. Clark unfortunately describes all the claws as bifid, and speaks of an inner tooth when each claw is divided or bifid, calling the base thickened when they are appendiculate; as this may give cause for confusion, it may be as well to mention it here.

2. **Rhoicus octomaculatus.** (Tab. XXVI. fig. 1.)

Flavous, glabrous; head, the seven lower joints of the antennæ, the breast, and the tibiæ and tarsi, black; thorax impunctate; elytra black, a spot at the base, a transverse band before and another below the middle, and the apices, flavous.

Length $3\frac{1}{2}$ lines.

Head much longer than broad, the vertex closely and strongly punctured; the frontal tubercles united into an elongate triangular elevation having at its middle a short fovea; the carina raised into an acute ridge extending to the end of the clypeus; palpi filiform; antennæ half the length of the body, the seven lower joints piceous, the rest flavous, the third joint the longest; thorax subquadrate, as long as broad, the sides slightly constricted below the middle, the surface obsoletely depressed near the anterior and the posterior margins, of a flavous colour, shining and impunctate; scutellum black; elytra exceedingly finely punctate-striate, black, each with a small spot at the base, a narrow transverse band (not extending to either margin) before, and a similar band below, the middle, flavous, the apex with a triangular flavous spot; femora and abdomen flavous, the breast black; posterior tibia armed with a single spur.

Hab. PANAMA, Volcan de Chiriqui (*Champion*). A single specimen.

3. **Rhoicus rogersi.**

Testaceous; antennæ nearly as long as the body, fulvous; head and thorax finely and closely punctured; elytra very finely punctate-striate, clothed with short yellow pubescence; sides of the abdomen black.

Length $2\frac{1}{2}$ lines.

Head longer than broad, the vertex extremely finely punctured; the space between the eyes furnished with a highly raised transverse ridge which limits the frontal tubercles behind; palpi filiform; antennæ more than two thirds the length of the body, rather robust, the third and fourth joints of equal length, the fifth joint longer; thorax distinctly longer than broad, the sides angulate before the middle, the disc extremely finely and closely punctured, obsoletely and longitudinally depressed at the middle, the surface sparingly clothed with yellow pubescence; elytra finely punctate-striate, densely clothed with short yellowish hairs; posterior tibiæ curved, their apices armed with a single spur; claws appendiculate.

Hab. Costa Rica, Rio Sucio (*Rogers*).

The single specimen before me is of smaller size than most of the other species placed in this genus; it is easily distinguished by the uniform testaceous colour, with the exception of the sides of the abdomen, which are black and shining.

RHINOTMETUS.

Rhinotmetus, Clark, Cat. of Halticidæ, p. 33 (1860).

Rhinotmetus is perhaps one of the best characterized genera in the present group, on account of the produced or elongate head, the more elongate and anteriorly deflexed thorax, and the bifid claws, in connection with the filiform palpi; the shape of the thorax especially gives it a different facies. Twenty species have been described by Clark, all from different parts of Tropical South America; five are now recorded from Central America.

1. **Rhinotmetus depressus.**

Rhinotmetus depressus, Clark, Cat. of Halticidæ, p. 43, Front. f. 5 (1860)[1].

Hab. ? Mexico (*coll. Jacoby*).—Brazil [1].

The only difference I can find between the specimens contained in my collection, received as from Mexico, and the one in that of Mr. Baly, from Brazil, is the fulvous colour of the thorax and legs in my specimen, instead of black as in that of Mr. Baly; I do not hesitate therefore to look upon it as a variety. Whether the locality "Mexico" is correct I am unable to say, no other specimen from Central America having come under my observation.

2. **Rhinotmetus flavovittatus.**

Dark fulvous, clothed with flavous pubescence; antennæ black; head granulate-punctate; thorax thickly clothed with bright yellow pubescence; elytra narrowed behind, fuscous, fulvous at the sides, a narrow obsolete sutural and lateral stripe on each, pale flavous.

Length 2 lines.

Head strongly produced anteriorly, this portion broadly flattened; the vertex with a smooth central longitudinal carination, closely granulate-punctate at the sides; antennæ half the length of the body, black, the fourth

and the following joints of equal length, rather short, the third joint slightly longer; thorax slightly longer than broad, narrowed in front, the sides very little rounded before the middle, the surface ferruginous, thickly clothed with yellow hairs which conceal the punctuation; elytra distinctly narrowed behind, of a dark fuscous colour at the disc, the sides obscure fulvous, the suture very narrowly clothed with a thin pale flavous pubescence in the shape of a stripe which widens at the apices into a triangular patch, a similar but still more obscure stripe extends obliquely from the shoulder to below the middle; legs fulvous; posterior tibiæ armed with a single spur; claws bifid.

Hab. PANAMA, Bugaba (*Champion*). A single specimen.

This species differs from any of those described by Clark in its coloration in connection with the size; the elytral pale stripes can only be seen when the insect is viewed sideways, the punctuation is close and distinct, gradually diminishing posteriorly.

3. Rhinotmetus albopilosus.

Black; antennæ fulvous, the two basal and the sixth, seventh, and eighth joints, and the apical one, piceous; thorax granulate-punctate, with a lateral stripe of white pubescence; elytra deeply punctate-striate, the interstices strongly costate, sparingly clothed with silvery-white hairs.

Length $1\frac{3}{4}$ line.

Head granulate at the vertex, with a short longitudinal tubercle between the eyes, the latter very large; the lower part of the face obscure testaceous, glabrous, forming nearly a plane surface; palpi filiform; antennæ nearly half the length of the body, the last six joints short and thicker than the others; thorax subquadrate, the sides deflexed anteriorly, the lateral margins very obsolete, somewhat rounded and produced anteriorly, the surface entirely granulate, black, the sides clothed with silvery-white pubescence in the shape of a longitudinal stripe; elytra deeply depressed below the base, black, shining, the entire disc very strongly and longitudinally costate, the interspaces strongly punctured, sparingly clothed with silvery pubescence which assumes the shape of a spot at the middle, more distinctly pubescent at the sides; femora black, sparingly pubescent; tibiæ piceous, the posterior pair armed with a double spur.

Hab. PANAMA, Bugaba (*Champion*).

This species is sufficiently distinguished by its black colour, the costate elytra, and the white pubescence. One specimen, which differs from the type in having the elytra piceous with the sides fulvous, instead of black, is probably immature; other differences I cannot find.

4. Rhinotmetus canescens?

Rhinotmetus canescens, Clark, Cat. of Halticidæ, p. 52 (1860)[1].

Hab. GUATEMALA, Capetillo (*Champion*).—BRAZIL [1].

A single specimen of a *Rhinotmetus* from Capetillo answers so nearly the description of *R. canescens*, Clark, that I must refer it to that species. The entire insect is clothed with yellow pubescence; the head, thorax, and legs are flavous, but the elytra are dark fulvous, thickly clothed with yellow hair which just allows the punctuation to be seen. The antennæ are half the length of the body and dark fulvous, but what Clark means by saying that they are "contiguous at the base" I cannot quite understand; no such structure is known to me amongst the present section. In the specimen before me the

elytra have an elongate dark spot placed close to the suture below the middle, but whether this is accidental or normal I am unable to say.

5. **Rhinotmetus parvulus.**

Black, clothed with yellow pubescence; legs fulvous; head strongly, the thorax more finely and closely, punctured; elytra finely punctate-striate, sparingly clothed with yellow hairs.

Length $1\frac{1}{2}$–2 lines.

Head strongly and closely punctured at the vertex, sparingly clothed with yellow hairs; the anterior portion of the face divided by a longitudinal ridge; antennæ less than half the body in length, piceous, the lower joints fulvous below, all the joints short and robust, the terminal ones somewhat thickened; thorax scarcely longer than broad, the sides slightly narrowed and deflexed anteriorly, the surface rather flattened, closely and finely punctured, clothed with yellow pubescence which does not hide the punctuation; elytra closely and distinctly punctate-striate anteriorly, the punctuation quite obsolete towards the apices, similarly pubescent to the thorax; legs fulvous; posterior tibiæ with a single spur.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

Smaller than any other described species of *Rhinotmetus*, with all of which the present one agrees in the shape of the thorax and the single spur to the posterior tibiæ; the black colour, yellow pubescence, and the fulvous legs, will help in the recognition of *R. parvulus*.

TETRAGONOTES.

Tetragonotes, Clark, Cat. of Halticidæ, p. 53 (1860).

The long and narrow shape, and also the elongate and laterally subangulate thorax, help in distinguishing the species placed in *Tetragonotes* from those of most other genera, and make it comparatively easy of recognition. Seven species from different parts of Tropical South America have been described by Clark; two have been described from Guatemala by Harold, and I now add two others (one of which is described as new) from our country.

1. **Tetragonotes oculata.** (Tab. XXV. figg. 21, 22.)

Tetragonotes oculata, Harold, Coleopt. Hefte, xiii. p. 10 (1875)[1].

Hab. GUATEMALA[1]; PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

The description of the author agrees with the typical form, in which the elytra have an obscure spot at the base and another below the middle; there are, however, quite as many specimens before me in which the elytra are without spots; the thorax and the antennæ are also subject to changes in colour, being either of light or darker tint. The species will be recognized by the opaque general colour of its upper surface, caused by the very short and close pubescence, and the subangulate sides of the thorax. Many specimens were obtained by Mr. Champion by beating herbage on the margins of the coffee plantations on the slopes of the Volcan de Chiriqui, at the commencement of the rainy season.

2. **Tetragonotes militaris.** (Tab. XXV. figg. 23, 24, 25.)

Tetragonotes militaris, Harold, Coleopt. Hefte, xiii. p. 11 (1875)[1].

Hab. GUATEMALA[1]; PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

Without having seen the type it is impossible to say whether I rightly refer the numerous and variable specimens obtained by Mr. Champion to the above species. Some of these agree very well with Harold's description, except that in none can the elytra be called pubescent as in *T. oculata*; they are, on the contrary, rather shining, and only in the light-coloured specimens is a very fine pubescence visible at the sides. The following varieties are worth noticing:—

Var. *a*. Head and thorax fulvous; elytra dark bluish black.
Var. *b*. Head, thorax, antennæ, and the breast blackish, the rest as in var. *a*.
Var. *c*. Testaceous or fulvous, the posterior part of the elytra bluish black.
Var. *d*. Head and thorax blackish, the lateral margin of the latter testaceous; elytra with a transverse band at the base and another below the middle bluish black.
Var. *e*. Elytra entirely testaceous, the thorax as in var. *b*.

Between these varieties intermediate degrees of coloration are not wanting, and if the species is correctly referred to *T. militaris*, Harold, it is evident that author only knew the form with bluish elytra; the margin of the thorax in the dark-coloured specimens seems to remain of a testaceous colour, as in the type. *T. militaris* resembles in shape and structure the preceding species; the head and thorax show a fine but distinct punctuation, and the posterior tibiæ are not so curved as in *T. oculata*, as Harold also remarks.

Captured in plenty on the Volcan de Chiriqui by Mr. Champion, in company with *T. oculata*.

3. **Tetragonotes fasciaticollis.**

Black; upper part of the head, the base of the femora and tibiæ, flavous; thorax flavous, remotely punctured, a longitudinal band on the disc black; elytra black, very finely punctate-striate.

Length $2\frac{1}{2}$ lines.

Head closely punctured at the vertex, the punctures of elongate shape; the frontal tubercles strongly raised, bounded behind by a prominent transverse ridge; the extreme base of the vertex black, the rest of the face testaceous, the labrum piceous; palpi filiform; antennæ black, the third and fourth joints of equal length, the intermediate joints somewhat dilated (the apical ones wanting); thorax scarcely longer than broad, subquadrate, the disc rather flattened, transversely depressed in front of the basal margin, the sides obsoletely angulate before the middle, broadly flavous, the middle of the disc occupied by a longitudinal black band which is greatly and rather suddenly narrowed near the anterior margin, the surface very remotely and rather strongly punctured, covered with a few scattered hairs; elytra very finely punctate-striate, black, opaque, sparingly clothed with short, fulvous pubescence, the lateral margin (in one specimen) more distinctly fulvous; legs flavous, the apices of all the femora and those of the tibiæ, black; tarsi piceous, the breast and abdomen piceous or black, the abdominal segments margined with flavous.

Hab. COSTA RICA (*coll. Jacoby*), Rio Sucio (*Rogers*).

4. Tetragonotes vittata.

Tetragonotes vittata, Clark, Cat. of Halticidæ, p. 59 (1860)[1].

Hab. Guatemala (*coll. Baly*); Nicaragua, Chontales (*Janson*); Panama, Volcan de Chiriqui (*Champion*).—Brazil, Constancia[1].

Although some slight differences are to be found between the Nicaraguan specimens and the description of Clark, as well as in a specimen labelled "type" in the collection of Mr. Baly, they are not of sufficient importance to warrant the separation of the Central-American specimens; the thorax in the latter is strongly punctured, while the reverse is the case in the specimen in Mr. Baly's collection. Clark gives piceous as the colour of the antennæ, which agrees with the examples from Nicaragua; in the individual from Guatemala, the basal and the terminal joints are fulvous. The same author speaks only of Brazil as the locality of the species, although he must have seen the specimen from Guatemala if it was named by him, as the label implies. A single specimen, which differs but slightly from the others, was obtained by Mr. Champion in Chiriqui.

PHYSIMERUS.

Physimerus, Clark, Cat. of Halticidæ, p. 69 (1860).

More than thirty species, all from different parts of Tropical America, are at present placed in *Physimerus*; the genus ranges as far north as Mexico. *Physimerus* is far from satisfactorily established, as no constant structural characters for all the species can with certainty be pointed out. I find, for example, that, although Clark describes the posterior tibiæ as being armed with a single spur, this character is not peculiar to all the species described by him. I can detect two spurs in *P. pulchellus* and *P. vittatus*, the types of which are before me. I am, moreover, unable to see in all the species the row of comb-like teeth which frequently are placed below the insertion of the posterior tarsi. Chapuis in his diagnoses of the "Monoplatinæ" separates *Physimerus* from other genera by the want of an elytral depression below the base, yet Clark has described several species which possess this character in a marked degree. *Physimerus* may be principally known by the filiform palpi, the slender antennæ, the appendiculate claws, and the pubescence which covers the elytra; the species are, for the most part, of small size. Only a single one has been recorded up to the present time from Mexico. I may add here, to prevent further uncertainty, that Herr von Harold, in speaking of the genus *Physimerus* (Coleopt. Hefte, xiii. p. 15), and comparing it with *Hypolampsis*, Clark, makes the remark that Clark gives as one of the distinguishing characters "the posterior tibiæ of the last-named genus unarmed or possessing no spur." Herr von Harold has, however, in this respect misunderstood Clark, who says that the margination of the tibiæ is unarmed; there is, on the contrary, a distinct spur placed at the apices of the posterior tibiæ in *Hypolampsis*.

1. Physimerus basalis.

Below piceous; antennæ and legs fulvous; head and thorax black, clothed with yellow pubescence; elytra fulvous, closely punctate-striate, the interstices convex, a transverse band at the base and a spot below the middle, black.

Length 1 line.

Head granulate, clothed with yellow pubescence; the frontal tubercles obsolete; lower part of the face, the labrum, and the palpi, dark fulvous, shining; antennæ half the length of the body, fulvous, the apical joint darker, the third, fourth, and fifth joints of equal length, thin, the following joints thicker and shorter; thorax square-shaped, narrowed at the base, rather distinctly transversely depressed near the basal margin, the surface closely granulate, clothed with yellow pubescence; elytra with the basal portion rather strongly raised, finely but closely punctate-striate, the interstices longitudinally costate, and clothed with rather long yellow hairs, the surface light fulvous, a transverse obscure black band (widened towards the sutural margin) is placed across the base, and another narrow band (sometimes reduced to a spot) at the middle; legs fulvous, the posterior femora dusky at their apices.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

In the markings of the elytra *P. basalis* seems to agree closely with *P. rusticus*, Clark, but differs in the black colour of the head and thorax, and the entirely fulvous antennæ.

2. Physimerus obscuroplagiatus.

Obscure dark fulvous, clothed with yellow pubescence; antennæ long, the seventh and eighth joints and the terminal one piceous; elytra strongly punctate-striate, each with three or four obscure dark brown spots, the interstices slightly costate.

Length $1\frac{3}{4}$–2 lines.

Head finely rugose-punctate; the vertex of a dark brown colour, with a more or less distinctly raised central ridge; eyes very large, the space in front of their inner margin clothed with golden-yellow pubescence; lower part of the face concave, shining, fulvous; palpi subfiliform, testaceous; antennæ nearly as long as the body, the third, fourth, and fifth joints slender, elongate, and equal, the following joints shorter and of equal length, the five basal joints fulvous, the basal one stained with piceous, the sixth and seventh joints, as well as the last one, entirely of that colour; thorax distinctly broader than long, transversely depressed along the basal margin, the entire surface clothed with bright yellow pubescence which hides any punctuation; elytra with a slight basal depression, dark brown, rather strongly punctured, the interstices longitudinally but slightly costate, clothed with the same kind of pubescence as the thorax, but leaving bare on each elytron three or four spots, of which one is placed below the base and close to the suture, two others at the middle, and a fourth near the apex; underside more or less piceous or dark fulvous; the sides of the thorax piceous or fuscous; legs fulvous, clothed with yellow pubescence.

Hab. PANAMA, Bugaba, Volcan de Chiriqui, Caldera, Tolé (*Champion*).

Many examples. This species is evidently closely allied to several others contained in the present genus, notably to *P. antennarius*, Harold, on account of the long antennæ, and to *P. irroratus*, Clark, by the markings of the elytra. I cannot, however, identify *P. obscuroplagiatus* with either of the last-named or any other described species. In *P. antennarius* the thorax is described as longer than broad, which is not the case in *P. obscuroplagiatus*. In this last-named species the markings of the elytra (caused by the absence of the yellow pubescence in those places) are often very obscure and of rather irregular shape; but in specimens in good condition the four spots (of which the one at the middle near the suture is the largest) are plainly visible to the naked eye;

this, in connection with the rugosely punctured vertex and its central raised line, and the long antennæ in the male, will assist in the recognition of *P. obscuroplagiatus*.

3. **Physimerus brunneus.** (Tab. XXVI. fig. 21.)

Elongate, entirely reddish brown, clothed with yellowish pubescence; head granulate-punctate; thorax square-shaped, finely punctured; elytra without depression, finely punctate-striate, the interstices slightly raised.

Length 2 lines.

Head not longer than broad, closely and finely rugose-punctate; the vertex with a central, longitudinal, smooth, narrow ridge; the frontal tubercles very strongly raised, trigonate; the clypeus deeply concave, testaceous; antennæ more than half the length of the body, dark fulvous, the third and two following joints very slender, and of nearly equal length, the rest shorter; thorax about one half broader than long, the sides straight and somewhat narrowed towards the base, the surface rather depressed near the base, clothed with yellow pubescence which hides the punctuation; scutellum rather broad; elytra without basal elevation or depression, pubescent like the thorax, distinctly and closely punctate-striate, the interstices very slightly longitudinally raised.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

The entirely dark fulvous colour, the sculpture of the head, and the want of any elytral elevation at the base, together with the elongate shape of the insect, will help to distinguish *P. brunneus*.

4. **Physimerus maculicollis.**

Pale or darker fulvous, clothed with yellow pubescence; head rugose-punctate; thorax square-shaped, stained with black or fuscous at the sides; elytra narrowed behind, closely punctate-striate, clothed with long yellow pubescence.

Length $1\frac{3}{4}$–2 lines.

Head closely and finely rugose-punctate, the vertex with a raised central longitudinal carination, dark fulvous; the frontal tubercles very obsolete, the carina distinctly raised; palpi filiform; antennæ nearly half the length of the body, all the joints (with the exception of the third) short, fulvous or fuscous; thorax square-shaped, or slightly longer than broad (♂?), the sides deflexed, narrowed near the base, the surface more or less deeply depressed below the middle, the anterior portion being somewhat convex, the disc densely clothed with pale yellow pubescence, the sides with a more or less distinct longitudinal black spot which extends to the underside; elytra slightly flattened along the suture, scarcely depressed below the base, the punctuation very distinct if denuded of pubescence, the latter rather long and yellow in colour.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

P. maculicollis bears some resemblance to *P. brunneus*, but is rather smaller and of a narrower shape; the frontal tubercles are much more obsolete, the thorax is longer and stained with black, and the antennæ are of quite different construction.

5. **Physimerus mimulus.**

Physimerus mimulus, Harold, Coleopt. Hefte, xiii. p. 19 (1875)[1].

Hab. PANAMA, Volcan de Chiriqui (*Champion*).—PERU [1].

A single specimen obtained in Chiriqui by Mr. Champion agrees so well with the description of *P. mimulus* from Peru that I must refer it to that species; the thorax

is square-shaped, not narrowed at the base, with a shallow longitudinal groove and two anterior obsolete elevations; this, as well as the sculpture and colour of the elytra, is as described by Harold.

6. Physimerus pygmæus.

Dark brown or ferruginous, clothed with ashy pubescence; thorax narrowed at the base; elytra strongly punctate-striate, a small spot near the base, and a larger one below the middle, denuded of hairs.

Length 1 line.

Head scarcely longer than broad, the vertex finely rugose-punctate; eyes large, the intermediate space clothed with whitish pubescence; palpi filiform; antennæ as long as half the body, the terminal joints slightly thickened, the third joint longer than the fourth, fulvous, the seventh and eighth joints often darker; thorax very nearly square-shaped, distinctly narrowed at the base, the surface obsoletely transversely depressed near the basal margin, densely clothed with yellowish or whitish hairs; elytra closely and distinctly punctate-striate, all the interstices slightly longitudinally costate, the ground-colour dark brown, clothed with ashy grey or whitish pubescence, which is absent below the base and below the middle, forming a small and a larger brownish spot; legs fulvous.

Hab. PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

Many examples. This very small species may be known by the thorax being distinctly narrowed near the base; the slightly but distinctly costate interstices of the elytra (which have the basal portion scarcely more prominent than the rest of their surface); and by the two spots on each elytron, which, in specimens in good condition, may be seen without a lens. *P. mimulus*, Harold, seems to be a closely allied species, but differs in the shape of the thorax and its two small elevations, in the distinctly raised basal portion of the elytra, and in the markings of the latter.

On herbage, in company with many other species of this group, about the margins of newly made coffee plantations on the slope of the Volcan de Chiriqui at the beginning of the rainy season (*Champion*).

7. Physimerus zapotensis.

Fulvous; head and thorax granulate-punctate; elytra black, clothed with yellow pubescence, scarcely depressed below the base, distinctly punctate anteriorly, the apical portions nearly impunctate.

Var. *a*. Elytra dark fulvous.

Var. *b*. Thorax and elytra black.

Length 1 line.

Head closely and finely granulate (only visible with a strong lens), the frontal tubercles scarcely prominent, the carina very short; palpi filiform; antennæ scarcely half the length of the body in the male, shorter in the female, entirely fulvous, all the joints short, the terminal ones gradually incrassate; thorax scarcely longer than broad, the sides slightly narrowed at the base, the disc with an obsolete longitudinal depression near the anterior margin, the surface punctured like the head, and clothed with yellow pubescence; elytra with a very slight depression below the base, the punctuation well marked anteriorly but entirely absent below the middle, the disc sparingly pubescent like the thorax; legs entirely fulvous.

Hab. GUATEMALA, Zapote (*Champion*).

This seems to be a variable little species; it may be known by the small size, the fulvous antennæ and legs, and the very obsolete elytral depression. *P. obscurus*, Clark, is larger, and differs in the colour of the legs and antennæ.

8. **Physimerus varicornis.**

Pale fulvous, clothed with yellow pubescence, the sixth to the eighth joints of the antennæ piceous; elytra finely punctate-striate, each with some dark fulvous spots, placed transversely, the interstices slightly convex.

♂. Antennæ nearly as long as the body.

♀. Antennæ much shorter than in the male.

Length $1\frac{1}{2}$ line.

♂. Head clothed with golden-yellow pubescence, not visibly punctured; the labrum and the palpi testaceous; antennæ more than two thirds the length of the body, the first joint very stout, the third and fourth joints equal, the sixth to the eighth joints piceous or black, the others fulvous; thorax subquadrate, one half broader than long, the surface scarcely impressed, and clothed (like the head) with golden-yellow pubescence which hides any punctuation, the disc sometimes with two obscure fulvous spots; elytra with a shallow depression below the base, finely punctate-striate, the interstices very slightly raised, the surface clothed with yellow pubescence, but leaving bare some more or less distinct dark fulvous spots, which are generally placed in three transverse irregular rows; underside fulvous, sparingly clothed with yellow hairs; posterior tibiæ with a single spur.

Hab. GUATEMALA, Zapote, Capetillo (*Champion*).

P. varicornis seems to me to be closely allied to *P. variegatus*, Harold, which, according to the description, differs in the slightly longer than broad thorax (the reverse being the case in *P. varicornis*), in the deep punctuation of the elytra, and in the raised eighth interstice of the latter; in the female specimens of *P. varicornis* the antennæ scarcely reach the base of the elytra, but other differences of importance I cannot find. The general colour of the upper surface of the elytra is yellowish, spotted with fulvous; the thorax, however, on account of the closer pubescence, is of a more uniform yellowish or brownish tint; in some specimens the spots of the elytra almost disappear; the length of the antennæ and their stout basal joint will partly assist in the recognition of *P. varicornis*.

9. **Physimerus constricticollis.** (Tab. XXVI. fig. 20.)

♂. Fuscous or black; thorax strongly constricted at the base, the sides golden yellow; elytra strongly punctate-striate, brownish fuscous, each with a silvery-grey lateral and subsutural band.

♀. Elytra without bands.

Length $1\frac{3}{4}$–2 lines.

Head rugosely punctate, clothed with golden-yellow pubescence near the eyes; antennæ filiform, black, the third joint the longest, the terminal joints slightly thickened and much shorter than the others; thorax distinctly longer than broad, the sides greatly narrowed at the base, the surface finely granulate-punctate, the sides clothed with a longitudinal band of bright golden-yellow pubescence, the middle of the disc, as well as the sides below, fuscous; elytra narrowly parallel, without any basal depression, rather thickly clothed with silvery-grey pubescence, which forms a narrow longitudinal lateral and a subsutural band from the base to the apices, the rest of the surface is of a brownish fuscous colour, and clothed with (besides the short pubescence) numerous long whitish hairs; legs dark fulvous or piceous, thickly clothed with whitish pubescence; posterior tibiæ with a single spur.

Hab. PANAMA, Bugaba (*Champion*).

This handsome little species is well characterized by the strongly narrowed thorax and its two bright bands of yellow pubescence. In the female the elytra are very thinly clothed with brownish hairs, and the bands are scarcely indicated at the shoulders

and at the sides; the antennæ are, as is usual, shorter. *P. constricticollis* seems to be closely allied by the shape of its thorax and the markings of the elytra to *P. pruinosus*, Clark, but differs in the want of the elytral depression and the colour of the antennæ and thorax.

10. Physimerus nigricornis.

Dark fulvous; antennæ black; head and thorax fulvous, clothed with yellow pubescence; elytra brownish fuscous, clothed with whitish pubescence, strongly punctate-striate, the interstices longitudinally costate.

Length 1 line.

Head finely and closely punctured, clothed with bright yellow pubescence; palpi black or piceous, the penultimate joint slightly incrassate; antennæ black or piceous, the terminal joints very slightly incrassate, the joints from the third of nearly equal length; thorax distinctly constricted at the sides below the middle, obsoletely depressed across the disc at the same place, the surface punctured like the head, the punctuation however scarcely visible on account of the close bright flavous pubescence, which is especially prominent at the sides, the middle remaining more or less distinctly of the fulvous ground-colour; elytra without any basal elevation or depression, of a dark brownish-fuscous colour, clothed with ashy grey or whitish pubescence, strongly and longitudinally costate throughout, the interspaces closely and strongly punctured; posterior tibiæ with a single spur.

Hab. PANAMA, Bugaba, David, Caldera in Chiriqui (*Champion*).

The costate elytra and entirely black antennæ distinguish *P. nigricornis*, which probably would have been placed by Clark in his genus *Hypolampsis*, a genus containing, for the most part, very small species; amongst these one or two have been named by Clark *H. multicostata* and *H. costata*; but in his descriptions he makes no mention whatever of any costæ which are to be found in other species of *Hypolampsis*. It is therefore doubtful to which species the present one is most closely allied without seeing all Clark's types, which I am unfortunately not enabled to do.

11. Physimerus rubicunda.

Testaceous below, above reddish fulvous; head strongly and rugosely punctured; thorax granulate-punctate; elytra closely punctate-striate, clothed with fulvous pubescence.

Length 1 line.

Head strongly and closely rugose at the vertex, the lower part of the face testaceous; the penultimate joint of the palpi slightly thickened; the apices of the mandibles black; antennæ half the length of the body, piceous, the two or three basal and the three apical joints obscure fulvous, the third and the three following joints of equal length; thorax very slightly broader than long, the surface rather flattened and without depression, closely granulate-punctate, sparingly pubescent; elytra scarcely visibly depressed below the base, thinly clothed with fulvous pubescence, the disc closely punctate-striate, the interstices obsoletely longitudinally costate; legs testaceous or pale fulvous.

Hab. PANAMA, Volcan de Chiriqui, San Feliz (*Champion*).

12. Physimerus labialis.

Physimerus labialis, Clark, Cat. of Halticidæ, p. 74[1].

Hab. MEXICO [1], Orizaba (*Sallé*).

The specimens from Orizaba before me seem to be referable to Clark's species, with

the description of which they agree in the main points. Clark gives, however, the colour as tawny brown; that in the specimens before me might be called piceous, and the colour of the head and thorax black; the lower portion of the face is testaceous or fulvous, and smooth, and the pubescence of the entire upper surface is very scanty and of a yellowish-white colour; the antennæ are rather short and robust, the third joint being the longest; all the rest agrees with the description.

13. **Physimerus (?) nigripennis.** (Tab. XXVI. fig. 22.)

Piceous; head, thorax, and the base of the femora fulvous; elytra black, finely pubescent, distinctly punctate-striate; head produced; thorax finely punctured.

Length 1½–2 lines.

Head distinctly longer than broad, the vertex obsoletely punctured; the lower part of the face concave, divided by a narrow central ridge, shining, fulvous; palpi scarcely thickened at the penultimate joint; antennæ filiform, black, two thirds the length of the body, the third joint slightly longer than the fourth; thorax very slightly longer than broad, the sides perfectly straight, more or less distinctly narrowed at the base, the surface rather flattened, transversely depressed near the base, finely rugose-punctate, thinly clothed with pubescence, the disc in some specimens (♀) with a central longitudinal ridge near the base; scutellum fulvous; elytra black, clothed with thin whitish pubescence, rather strongly punctate-striate, the interstices somewhat costate in the female, the base without any depression or elevation; legs piceous or more or less marked with fulvous; posterior tibiæ with two spurs; claws appendiculate.

Hab. PANAMA, Bugaba, David (*Champion*).

The produced head and the double spur to the posterior tibiæ are characters strange to the genus *Physimerus*, at least amongst the typical forms; I have, however, provisionally placed the present species in *Physimerus* rather than establish another genus on characters which in themselves are not always found to be constant. There is, moreover, some doubt attached to the double spur of the tibiæ in *P. nigripennis*, one of them being very small, but the other of large size, so that it is possible to describe the tibiæ as having one spur. *P. nigripennis* resembles in colour and size *P. inornatus*, Clark, but differs in the shape of the head and in the longer thorax.

THRASYGŒUS.

Thrasygœus, Clark, Cat. Halticidæ, p. 102 (1860).
Eupeges, Clark, loc. cit. p. 107.

The filiform or at least scarcely thickened maxillary palpi and the bifid claws are the principal distinguishing characters of this genus. In examining a type-specimen of Clark's genus *Eupeges*, *E. scabrosa*, from Brazil, which that author has separated from *Thrasygœus* on account of the supposed unarmed tibiæ, I find that the latter are provided with a long and distinct spur, at least in the species I have before me; and if this should prove to be the case with the two others described by Clark, there is no further reason to separate *Eupeges* from *Thrasygœus*, with which it agrees in all other respects. Both genera, containing some few described species, are peculiar

to Tropical America, but not hitherto recorded from our country, from whence we now record five species.

1. **Thrasygœus salvini.**

Oblong ovate, black, very finely pubescent; lower part of the face testaceous; abdomen piceous; head and thorax finely rugose-punctate; elytra finely punctate-striate, the interstices slightly convex.

Length 3 lines.

Head very closely and rather finely rugose-punctate, the frontal tubercles bounded behind by a deep transverse groove; clypeus testaceous; labrum piceous, margined with testaceous, impressed with a row of deep punctures; palpi filiform, pale testaceous; antennæ black, the third joint the longest, the following joints shorter and nearly equal (the two last joints wanting); thorax rather more than twice as broad as long, the sides very obsoletely angulate before the middle, the surface depressed at the sides near the base, finely rugosely punctured like the head, and clothed with very thin yellowish hairs; scutellum pubescent; elytra very thinly clothed with yellowish pubescence, finely punctate-striate, the interstices everywhere obsoletely raised; femora at their inner sides, and the coxæ, as well as the apices of the posterior tibiæ, testaceous; posterior tibiæ with a distinct spur; claws bifid.

Hab. GUATEMALA (*coll. Jacoby*), Aceytuno (*Salvin*).

The single specimen obtained by Mr. Salvin is probably somewhat worn; in fresh specimens the pubescence of the elytra and thorax is no doubt more plainly visible. *T. salvini* may be separated from the species described by Clark by the uniform black colour of the upper surface.

2. **Thrasygœus tibialis.**

Ovate, convex, dark fulvous; antennæ and the anterior tibiæ black; upper surface clothed with yellow pubescence; head and thorax rugosely punctured; elytra finely punctate-striate.

Length 2–3½ lines.

Head very closely and strongly punctured, the vertex convex; palpi not thickened; antennæ about half the length of the body, black, the third and the two following joints of equal length, the others shorter; thorax transverse, scarcely narrowed in front, the sides perfectly straight, the surface obsoletely transversely depressed near the base, punctured like the head, clothed with yellow, rather long pubescence; elytra rather convex, very slightly depressed below the base, finely punctate-striate, thinly clothed with yellowish hairs; the four anterior tibiæ black; posterior tibiæ with a double spur; claws bifid.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

T. soricinus, Harold, seems to be a closely allied species, but differs in the anteriorly strongly narrowed thorax, the flatter general shape, and the uniform colour of the legs.

3. **Thrasygœus cordovensis.** (Tab. XXVI. fig. 16.)

Broadly oblong ovate, subdepressed; flavous, the base of the head black; thorax closely and finely punctured; elytra clothed with thin yellow pubescence, fulvous, the base and the lateral margin fuscous, finely punctate-striate.

Length 3½ lines.

Head granulate-punctate at the vertex, the latter black; the lower part of the face, the labrum, and the filiform palpi, flavous, shining; antennæ more than half the length of the body, the third joint much longer than the fourth, the five lower joints fulvous, the two following ones obscure piceous, the rest pale fulvous;

thorax transverse, the sides slightly rounded before the middle, the anterior angles oblique, the surface with a rather deep fovea at each side, closely and finely punctured, flavous, shining, scarcely pubescent; scutellum fuscous; elytra rather flattened, without any basal depression, finely and rather closely punctate-striate, the interstices slightly convex near the suture, the entire surface clothed with very thin yellowish pubescence, the disc dark fulvous, all the margins and the base fuscous; underside and legs flavous, sparingly pubescent; posterior tibiæ with a single spur; claws bifid.

Hab. MEXICO, Cordova (*Sallé*). A single specimen.

4. **Thrasygœus femoralis.** (Tab. XXVI. fig. 17.)

Broadly oblong-ovate, fulvous below; the base of the head, the antennæ, the anterior tibiæ, and a spot at the apices of the posterior femora, black; thorax flavous; elytra dark fuscous, a subsutural and a lateral longitudinal stripe fulvous, thinly clothed with yellowish pubescence.

Length 3 lines.

Head very finely and rugosely punctured, black; the clypeus and the filiform palpi testaceous; antennæ more than half the length of the body, black, the first joint more or less flavous, the third joint rather longer than the fourth; thorax twice as broad as long, the sides straight, the surface very slightly transversely depressed near the base, flavous, clothed with thin pubescence which obscures any punctuation; scutellum fuscous; elytra without any basal depression, closely and finely punctate-striate, dark fuscous, thinly pubescent, a stripe near the sutural margin and another near the lateral one (confluent at the apex of each elytron) yellowish; apices of the posterior femora, as well as the anterior tibiæ and tarsi, black; underside flavous or fulvous; posterior tibiæ with a single spur; claws bifid.

Hab. GUATEMALA, Senahu in Vera Paz (*Champion*).

The ground colour of the elytral stripes is dark fulvous, but the pubescence covering them is yellowish, which is the prevailing tint.

5. **Thrasygœus scabrosus.** (Tab. XXVI. figg. 18, 19.)

Eupeges scabrosa, Clark, Cat. Halticidæ, p. 109 [1].

Hab. MEXICO, Orizaba, Cordova, Panistlahuaca (*Sallé*); GUATEMALA, Zapote (*Champion*).—BRAZIL [1].

Var. Entirely fulvous.

As already remarked, *T. scabrosus* was placed by Clark in the genus *Eupeges* on account of the supposed unarmed posterior tibiæ. As the reverse is the case in the type before me, the species must find its place in *Thrasygœus*, with which it further agrees in the bifid, not appendiculate, claws. The Guatemalan specimens show no difference to any appreciable extent from the type; the base of the head in most specimens is black or sometimes entirely fulvous, and rugose punctate; the lower part of the face and the thorax rufous; the thorax is closely punctured and distinctly transversely depressed near the base; the elytra are black, clothed with very thin pubescence (in the diagnosis of the genus Clark calls the elytra glabrous), and finely punctate-striate. Many specimens from Guatemala are of an entirely fulvous colour, with instances of darker shades; but, as I cannot discover any other differences of importance, and being from the same locality, I believe these specimens to be but a pale variety of the present species. Typical and pale forms from Mexico are also before me.

PHYLACTICUS.

Phylacticus, Clark, Cat. of Halticidæ, p. 110 (1860).

Most of the species of *Phylacticus* are of broad and robust shape, with the thorax often glabrous, and the elytra clothed with thin hairs. The filiform palpi and antennæ, the rather long and double spur at the apices of the posterior tibiæ, and the vertically placed head are also characteristic of the genus. Several species are of an olive-green colour.

The genus is confined to Tropical America, from whence about seven species have been described. We now add one from the State of Panama; this is closely allied in colour to a species (*P. viridis*, Perty) from Brazil, but I think distinct. The range of *Phylacticus* is from Chiriqui to the Amazons valley.

1. **Phylacticus major.** (Tab. XXV. fig. 19.)

Testaceous below, olive-green above, clothed with pale yellow hairs; head and thorax closely punctured, the latter with two lateral yellow stripes; elytra closely punctate-striate, the interstices slightly convex and minutely punctured.

♀. The eighth interstice of the elytra strongly longitudinally costate.

Length $3\frac{1}{2}$–4 lines.

Head green, the sides below the eyes and the lower part of the face testaceous; the vertex rugosely punctured; antennæ half the length of the body, slender, fulvous; thorax transversely quadrate, less transverse in the male, the surface depressed near the base, closely punctured, olive-green, sparingly pubescent, the sides with a longitudinal well-defined yellow stripe; scutellum obscure fulvous, small; elytra rather flattened, the surface strongly deflexed near the apices, deeply punctate-striate, the interstices very closely and minutely punctured, densely clothed with yellowish-white hairs; legs flavous or fulvous, the apices of all the femora and the outer side of the anterior tibiæ green.

Hab. PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).

This species seems to agree almost entirely with *P. viridis*, Perty, in its coloration (unfortunately the sculpture of the head and thorax is not mentioned by either Clark or Harold); but the Central-American insect is almost twice the size of that species; on this account I do not look upon it as identical with *P. viridis*, which, moreover, is from Brazil. I have no doubt that *P. major* represents a closely allied but distinct species.

OMAMMATUS.

Homammatus, Clark, Cat. of Halticidæ, p. 116 (1860).
Omammatus, Gemm. & Harold, Cat. xii. p. 3539.

Two species at present constitute this genus, which must be ranked amongst those of doubtful systematic value; the palpi are filiform or rather subfiliform; the antennæ in one of the species filiform and in the other incrassate. Clark in his general remarks

on the genus calls the thorax angulate, but in the descriptions of the species he does not mention this shape, and as the two described species seem to differ greatly amongst themselves in regard to structural details, the generic value of *Omammatus* can only be settled when more material is obtained.

Two species from the State of Panama I have provisionally placed in this genus. *Omammatus* is confined to Tropical America, the genus ranging from the Colombian State of Panama to Brazil.

1. Omammatus sericeus.

Dark fulvous, clothed with flavous pubescence; antennæ filiform, the seventh and eighth joints fuscous; thorax narrowed in front, nearly impunctate; elytra clothed with short and close flavous pubescence, an obscure spot below the middle of each, fulvous.

Length 2 lines.

Head rather closely punctured immediately above the eyes, the vertex with a smooth central longitudinal line; the frontal tubercles elongate and very distinct, joined to the acutely raised carina which extends to the clypeus; antennæ nearly half the length of the body, the third and the two following joints more elongate than the rest and of equal length, the five terminal joints shorter and stouter; thorax a little longer than broad, slightly cylindrical, distinctly narrowed in front, the lateral margins straight, the sides deflexed near the anterior angles, a distinct longitudinal depression is placed at the middle of the disc near the anterior margin, the surface extremely finely punctured and very sparingly pubescent; scutellum small, fuscous; elytra rather broadly ovate, strongly narrowed posteriorly, without any basal depression, rather strongly punctate-striate, the punctuation entirely indistinct at the apices on account of the velvet-like flavous pubescence at that part, the rest of the surface less thickly pubescent; posterior tibiæ with a single spur; claws appendiculate; legs of the same colour as the body, and clothed with flavous pubescence.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

The single specimen obtained seems to me to find its place in *Omammatus*, on account of the shape of the thorax, the single spur at the apices of the posterior tibiæ, and the subfiliform palpi. *O. sericeus* differs from *O. turgidus*, Clark, in the fulvous colour of the upper surface and the different coloration of the antennæ.

2. Omammatus nitidus.

Homammatus nitidus, Clark, Cat. Halticidæ, p. 119, t. 4. fig. 8[1].

Hab. PANAMA, Bugaba (*Champion*).—COLOMBIA[1].

I have only to add to the description of Clark, which agrees in every respect with the two specimens obtained at Bugaba, that the punctuation of the elytra is scarcely or not at all visible below the deep basilar depression; that of the thorax extends obliquely upwards and across the disc, but not to a very marked degree. The species, although said by Clark to be contained in the Baly collection, is, like several others, not to be found there, consequently I am not enabled to compare our insect with the type.

OMOTYPHUS.

Homotyphus, Clark, Cat. of Halticidæ, p. 120 (1860); Harold, Col. Hefte, xiii. p. 20 (1875).
Omotyphus, Gemm. & Harold, Cat. xii. p. 3539.

Omotyphus, on account of its somewhat square shape and rather robust appearance, very closely resembles the genus *Omototus*, from which Clark has separated it on account of the "filiform palpi," and the double spur at the extremity of the posterior tibiæ. That the shape of the palpi in these insects is of but slight value in their classification is sufficiently proved by the many intermediate degrees to be found even amongst the members of the same genus; as regards the single or double spur to the posterior tibiæ the same may be said, and to most observers it will always be doubtful whether an insect of the present section should be described as armed with one or two spurs, at least in most instances. This doubt arises not from the fact that a single well-developed spur is nearly always to be found at the middle of the cavity at the extremities of the posterior tibiæ, but that, if the insect is held sideways and in certain lights, the generally acute and pointed outer angle or apex of the tibia produces the effect of a "second" spur; yet this cannot be properly called as such (many intermediate degrees in regard to the length of this so-called spur are to be found), so that it will always remain doubtful if the species is to be placed amongst the genera with a single or with a double spur according to Clark. *Omototus* may, in my opinion, be safely united with *Omotyphus*. The genus is well represented in Central America by ten species, seven of which are here described as new; about six others are known from Tropical South America.

The range of *Omotyphus* is from Mexico to Brazil.

1. **Omotyphus fuliginosus.**

Homotyphus fuliginosus, Clark, Cat. of Halticidæ, p. 124 [1].

Hab. Mexico [1].

This species is probably a variety of *O. asper*.

2. **Omotyphus asper.** (Tab. XXVI. fig. 13.)

Homotyphus asper, Clark, Cat. of Halticidæ, p. 125 [1].
Homotyphus squalidus, Clark, l. c. p. 126 [2].

Hab. Mexico [1 2], Cordova (*Sallé*).—Brazil [1].

I am unable to separate these two species, the types of which, contained in the collection of Mr. Baly and named by Clark, are before me; I cannot discover any difference whatever of any consequence. Clark says that *O. squalidus* may be separated from *O. asper* by the three longitudinal carinations at the base of the head, of which I can find no trace, and there is only the possibility left to conclude that the specimen named *O. squalidus* has been so named by mistake by Clark. The description given by Clark of *O. asper* does not convey a correct idea of the sculpture of the head and thorax:

the former is "coarsely rugose-punctate," not granulate; the thorax is nearly as deeply punctured, and has two raised longitudinal tubercles placed near the anterior margin, as Clark describes in his *O. fuliginosus*, which he compares to *O. tuberculatus*, although he has not described any species under that name in the present genus.

3. Omotyphus tibialis.

Ovate, subdepressed, fulvous or ferruginous, clothed with yellow pubescence; thorax subquadrate, with three longitudinal yellow bands; elytra finely punctate-striate, marked with alternate yellow and fulvous narrow longitudinal stripes.

♂. The posterior tibiæ strongly curved, with an acutely raised marginal ridge.

Length 2 lines.

Head rugosely punctured, clothed with yellow pubescence; antennæ half the length of the body, entirely fulvous, the third and the two following joints of equal length, the rest shorter; thorax scarcely broader than long, finely and closely punctured, fulvous, the golden-yellow pubescence forming a lateral and a central longitudinal band; elytra broader than the thorax, the basal portion rather strongly raised, finely punctate-striate, the punctures placed in sinuate, not straight lines, the interstices alternately fulvous (or covered with golden yellow pubescence, producing the effects of narrow longitudinal bands); posterior tibiæ of the male curved and deeply longitudinally channelled, and their apices armed with a double spur, those of the females straight; palpi filiform.

Hab. GUATEMALA, San Gerónimo (*Champion*).

When the insect is viewed sideways the pubescent yellow elytral stripes, followed by the fulvous smooth spaces, can be seen more plainly; seen without a lens from above the elytra appear obsoletely spotted, the spots forming two oblique transverse rows; the male of *O. tibialis* is well distinguished by the curved, deeply channelled and acutely margined posterior tibiæ.

4. Omotyphus maculipennis.

Black; closely pubescent; palpi filiform; antennæ fulvous, the seventh and the eighth joints and the apical one fuscous or black; head with three longitudinal carinations; thorax granulate, bituberculate; elytra finely punctate-striate, black, spotted with ashy grey.

Length 2 lines.

Head finely granulate, fuscous or piceous, with some golden-yellow pubescence; above the antennæ with a central and a lateral short ridge, not extending to the base; the space between the antennæ with a sharply raised keel extending down to the clypeus; antennæ half the length of the body, slender, the terminal joints not incrassate, the third joint longer than the fourth, the basal joint piceous above, the five following joints fulvous, the next two piceous, the ninth and tenth fulvous, the terminal joint fuscous; thorax at least twice as broad as long, short, the sides straight, the surface with two slightly raised tubercles near the anterior margin, finely granulate, the sides depressed anteriorly and near the base, thickly clothed with brownish fuscous pubescence, the sides with a more or less distinctly marked golden yellow stripe; elytra with the base slightly raised, finely punctate-striate, clothed (the punctures as well) with thick blackish pubescence and variegated with small whitish grey spots placed in three or four transverse rows of very irregular shape, the interstices slightly convex, a well-marked depression is placed below the base, and a much more obsolete one below the middle close to the suture; below and the legs piceous, clothed with silvery-grey pubescence.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

In the coloration of the elytra, *O. maculipennis* seems to be allied to *O. crassicornis*, Harold, from Bogota, from which it evidently differs by the sculpture of the head, the

three carinations, and the distinctly and sharply raised keel between the antennæ extending down to the clypeus. *O. fuliginosus*, Clark, seems also closely allied in the sculpture of the head, but differs in the larger size, the (broad ?, Clark) robust antennæ, and in the different general colour. The three specimens I refer to *O. maculipennis* do not vary to any marked degree; in all the elytral spots are plainly visible and distributed over the entire disc in three or four transverse but very irregular rows; a further distinguishing character of the species is the narrow transverse thorax, in most allied species the square shape being the rule.

5. **Omotyphus chiriquensis.**

Obscure ferruginous, clothed with yellow pubescence; the sixth to the ninth joints of the antennæ black; thorax with three bands of yellow pubescence; elytra finely punctate-striate, each with four golden-yellow stripes of pubescence.

Length 2 lines.

Head finely granulate at the vertex, the latter dark brown, clothed at the sides and in front with yellow pubescence; palpi filiform; antennæ about half the length of the body, the third, fourth, and fifth joints slender and of nearly equal length, the following ones shorter and thicker, the sixth to the ninth joints black, the others fulvous; thorax subquadrate, the sides below nearly black, the surface thickly clothed with fulvous and yellow hairs, forming two broad longitudinal bands, fulvous at the middle of the disc, the sides being marked with yellow stripes; elytra very slightly depressed below the base, alternately striped with fulvous and yellow pubescence (best seen when the insect is held sideways), near the sides and the apices the pubescence is more distinctly yellow; posterior tibiæ with a double spur.

Hab. PANAMA, Volcan de Chiriqui, Bugaba (*Champion*).

This species might perhaps equally well find its place in *Physimerus*, agreeing as it does with that genus in all its characters except the double spur which is supposed to characterize *Omotyphus*, but which is, as already remarked, also to be found in some species of *Physimerus* described by Clark. *O. chiriquensis* may be known by the four black joints of the antennæ (constant in all the specimens before me), and by the two broad fulvous bands at the middle of the disc of the thorax; this latter character is also found in *O. tibialis*, which species has also nearly the same elytral pattern; the antennæ, however, in *O. tibialis* are entirely fulvous and gradually thickened, while in *O. chiriquensis* the sixth and following joints are suddenly incrassate.

6. **Omotyphus semifasciatus.** (Tab. XXVI. fig. 14.)

Fuscous, clothed with dark yellow pubescence; antennæ long, fulvous, the seventh and eighth joints and the apical one fuscous; thorax with two broad dark fuscous bands; elytra dark yellowish, with two transverse oblique rows of obsolete darker spots.

Length 2 lines.

Head dark fuscous at the vertex, granulate-punctate, with three short carinations above the insertion of the antennæ; the clypeus piceous, with a central raised ridge; palpi slender, filiform; antennæ two thirds the length of the body, the third to the sixth joints slender and elongate, fulvous, the following joints shorter and stouter; thorax nearly twice as broad as long, subquadrate, with a distinct transverse depression at the sides and two obsolete tubercles near the anterior margin, the middle of the disc marked with two dark fuscous very distinct longitudinal bands, the rest of the surface occupied by dark yellow pubescent stripes; elytra finely punctate-striate, the basal portion rather distinctly raised, thickly clothed with dark

yellow pubescence, interrupted at and below the middle by an oblique row of longitudinal dark fulvous or fuscous spots, forming two oblique rows, which are wider apart at the sutural than at the lateral portion.

Hab. PANAMA, Volcan de Chiriqui, Bugaba (*Champion*).

I must separate the present insect on account of the elytral pattern, which is the same in the three specimens before me; the colour of the pubescence is rich dark yellow, and the two rows of spots, deviating from each other at the suture, are distinctly visible with the naked eye; the long antennæ will also assist in distinguishing *O. semifasciatus*.

7. Omotyphus bituberculatus.

Obscure fulvous or fuscous, thickly clothed with variously coloured pubescence; antennæ fulvous, the seventh and eighth joints fuscous; thorax with obsolete longitudinal stripes; elytra with a basal depression, thickly clothed with brown and yellow pubescence, each with a subsutural longitudinal tubercle below the middle.

Length 1½ line.

Head short and broad, thickly clothed with yellow and fulvous pubescence; palpi filiform; antennæ half the length of the body in the male, shorter in the female, the third, fourth, and fifth joints, slender and elongate, of nearly equal size, fulvous, the three apical joints also fulvous, the seventh and eighth joints fuscous or piceous; thorax subquadrate or one half broader than long, distinctly transversely depressed across the disc, covered entirely with either fulvous or yellowish pubescence forming alternate obsolete stripes; elytra rather strongly punctate-striate, the interstices slightly raised, the basal portion also raised and limited behind by a transverse depression, near the suture below the middle is a narrow elongate tubercle placed on the second interstice.

Hab. PANAMA, Bugaba, Volcan de Chiriqui, Tolé (*Champion*).

This seems to be a most variable little species in regard to coloration, scarcely two specimens being alike; in some the elytra are nearly black, the pubescence forming white and dark fulvous or ferruginous spots, while in others the entire apices are ferruginous; a few have the elytra clothed with golden-yellow pubescence, varied by spots of a ferruginous colour; in all, however, the postmedian short sutural elevation is present, a character that will principally assist in the recognition of *O. bituberculatus*.

8. Omotyphus scutellatus.

Below fulvous; above clothed with greenish pubescence; the sixth to the ninth joints of the antennæ black; scutellum fulvous; elytra finely punctate-striate, one or two spots near the suture and an oblique row of spots below the middle, obscure fulvous.

Length 2 lines.

Head thickly clothed with yellowish-green pubescence; the lower part of the face smooth, fulvous; antennæ scarcely half the length of the body, the terminal joints incrassate, the five lower joints fulvous, the three or four following joints black, the apical ones fulvous; thorax twice as broad as long, the sides straight, the surface scarcely visibly depressed at the sides, covered entirely with greenish pubescence which hides any punctuation; scutellum fulvous, clothed with long hairs; elytra with the base scarcely raised or depressed below, thickly clothed with the same coloured pubescence as the head and thorax, the punctuation fine, a small dark fulvous spot is placed at the middle near the suture, and three or four similar transversely oblique spots (longitudinal in shape) below the middle; legs fulvous; posterior tibiæ with a double spur.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

The greenish colour of the pubescence and the fulvous scutellum distinguish

O. scutellatus; the spots of the elytra are as usual not very well defined, though visible to the naked eye; the head is devoid of any elevations, except those of the frontal tubercles, and the punctuation is hidden by the thick pubescence.

9. Omotyphus varicornis.

Obscure fulvous or dark fuscous, thickly pubescent; the sixth to the eighth joints of the antennæ black; head and thorax granulate-punctate; elytra with a basal depression, finely punctate-striate, the interstices flat, variegated with yellow or brown pubescence; palpi filiform.

♂. Antennæ slender, more than two thirds the length of the body.

♀. Antennæ short, the terminal joints incrassate.

Length $1\frac{3}{4}$–2 lines.

Hab. GUATEMALA, near the city (*Champion, Salvin*), Zapote, Capetillo (*Champion*).

Many specimens from the localities cited above prove this species to be again a very variable one, and remarkable for the entirely differently formed antennæ in the two sexes. I have no doubt these refer to the same species, as they were obtained at the same localities, and show no other differences whatever, although in coloration scarcely two examples are alike. *O. varicornis* is principally distinguished by the granulate head and thorax; the latter is quadrate and distinctly transversely depressed near the base, and sometimes on its surface are seen more or less distinct longitudinal yellow pubescent bands varied by similar dark fulvous bands; the elytra in the fulvous specimens are irregularly marked with stripes of yellow pubescence, especially noticeable at the apices, but the surface has generally a mottled appearance; some specimens are almost black, thickly clothed with fuscous or ferruginous hairs in some places; the legs are generally fulvous, sometimes darker or variegated. *O. fuliginosus*, Clark, seems to be a closely allied species, but is of much larger size, and the head is described as having three longitudinal carinations, of which in the present species no trace can be found. *O. varicornis* possesses all the characters supposed to be peculiar to *Omotyphus*, and, if I am right in referring all the specimens before me to the same species, it will be seen that no reliance can be placed on the structure of the antennæ alone as a guide for the classification of these insects.

10. Omotyphus maculicornis.

Homotyphus maculicornis, Clark, Cat. of Halticidæ, p. 127[1].

Hab. MEXICO[1].

Unknown to me. There is so much similarity in Clark's description of this and several other species often showing a great amount of variation, that, without having seen the types, doubts must be entertained as to the distinctness of this and other closely allied forms, some of which have been established on single specimens.

HYLODROMUS.

Hylodromus, Clark, Cat. of Halticidæ, p. 143 (1860).

Hylodromus was established on a species (*H. dilaticornis*, from the Amazons having the third to the sixth joint of the antennæ dilated and compressed, and a double spur to the hinder tibiæ: both these characters are present in an insect obtained in the State of Panama, a species which agrees also in most other structural characters described by the author; in its general appearance and shape, however, our insect agrees with *Omammatus*, and the elytra are entirely glabrous and without pubescence.

1. Hylodromus basalis.

Fulvous; the seven lower joints of the antennæ, the head, and thorax, piceous; the terminal joints of the antennæ, the anterior legs, and the posterior tibiæ, flavous; elytra with a deep basal depression, their basal half piceous, the rest fulvous.

Length 2 lines.

Head impunctate, glabrous; the frontal tubercles very strongly developed; the basal part of the clypeus very convex and greatly deflexed; the labrum testaceous; the maxillary palpi strongly incrassate; antennæ half the length of the body, the second joint short and rounded, the three following joints very robust and thickened, the sixth joint also stout but more elongate, the four apical joints short, flavous; thorax about twice as broad as long, the sides concave at the middle, the angles acute and thickened, the anterior ones furnished with a single seta, the surface rather depressed across the basal portion, very remotely but rather distinctly punctured, of a piceous or very dark fulvous colour, the angles and the extreme basal margin of a more flavous tint; scutellum rather broad, impunctate; elytra but slightly convex, deeply transversely depressed below the base, the latter raised and strongly punctate-striate, the punctuation finer towards the apices, rather more than the posterior half of the elytra fulvous, the basal portion piceous, very shining and glabrous; posterior femora dilated at the middle into a triangular tooth, piceous, their apices, together with the other legs, flavous; posterior tibiæ strongly curved at the base, and armed with a very long double spur.

Hab. PANAMA, Bugaba (*Champion*).

The triangularly dilated posterior femora, in connection with the shape of the antennæ, will help in the recognition of this species.

CLEOPHES.

Body oblong-ovate, glabrous; maxillary palpi filiform; antennæ filiform, the terminal joints slightly thickened, the third joint twice the length of the second; thorax transverse; posterior tibiæ serrate, armed with a single spur.

I am unable to find a place amongst the genera of Clark's monograph for the insect described here, on account of the very distinct serration of the posterior tibiæ in connection with their single spur. *Ptinomorpha*, Harold, possesses these characters, but differs in the incrassate maxillary palpi, the different structure of the antennæ, and the subquadrate thorax.

1. Cleophes unifasciata. (Tab. XXV. fig. 20.)

Reddish fulvous; the three apical joints of the antennæ, and the posterior femora, piceous; thorax finely punctured; elytra finely punctate-striate, reddish fulvous, with a narrow transverse black basal band.

Length 1½ line.

Head with a few fine punctures, the eyes large, the frontal tubercles very obsolete; the anterior portion of the face rather long, testaceous; antennæ half the length of the body, pale fulvous, the three apical joints black, the third and fourth joints slender, elongate, and of equal length and each rather more than twice the length of the second; thorax more than twice as broad as long, the sides slightly rounded before the middle, the anterior angles oblique, the surface with a very obsolete transverse depression near the base, finely and distantly punctured; scutellum fulvous; elytra with a distinct depression below the base, regularly and finely punctate-striate, the punctuation scarcely finer and distinct at the apices, and with a narrow black transverse band (extending to the margins and as far as the depression) at the base; posterior femora not extending to the apices of the elytra (♀?); posterior tibiæ deeply longitudinally channelled, the margins of the groove armed with a row of distinct teeth, the inner apices armed with a single stout spur; claws appendiculate.

Hab. PANAMA, Bugaba (*Champion*). A single specimen.

Subfam. *GALERUCINÆ.*

This subfamily, although not quite so strongly represented in genera as the "Halticinæ" (which remark applies to most other parts of the world, as well as to the country under investigation), yet forms no inconsiderable portion of the Phytophagous Coleoptera; and it is perhaps worth noticing that we usually find amongst the "Galerucinæ" greater numbers of individuals of certain species than amongst the preceding subfamily. We find, for example, that the genus *Diabrotica*, whose metropolis is the entire southern part of America, and extending to North America, is not only exceptionally rich in species, but that some of these are represented by such numbers of individuals, judging from the immense amount of material obtained, that they must swarm in the localities they inhabit; the same may be said of the genera *Monocesta*, *Galeruca*, and others. It is, however, possible that owing to the absence of saltatorial power in the "Galerucinæ," possessed to such a great degree by the closely allied "Halticinæ," the former fall a more easy prey to the collector, and that their superiority in point of numbers is more apparent than real. The only character of distinction between the Halticinæ and Galerucinæ which one can point out, is the want of the incrassation of the posterior femora in the latter. From Central America about sixty species of Galerucinæ have been described; the researches of Mr. Champion, Herr Höge, and others have, however, now added very many new and interesting forms.

a. *Anterior coxal cavities open.*

* *Tibiæ longitudinally sulcate, unarmed; claws bifid.*

MONOCESTA.

Monocesta, Clark, Ann. & Mag. Nat. Hist. 3rd ser. xvi. p. 264 (1865).

This genus contains, for the most part, large and handsomely marked species; it

forms part of the sixteenth group of Chapuis's arrangement, the "Cœlomerinæ." From *Cœlomera* proper, *Monocesta* is distinguished by the proportionate different length of the joints of the antennæ, the third and fourth joints being nearly equal; in *Cœlomera* the third joint is very long.

Monocesta has its headquarters in Tropical South America; one species, however, extends to the United States. Nearly thirty species have been described.

1. **Monocesta ducalis.** (Tab. XXVII. fig. 1.)

Monocesta ducalis, Clark, Ann. & Mag. Nat. Hist. 3rd ser. xvi. p. 265 [1].

Hab. MEXICO [1], Peras, Coscomotepec, Orizaba (*Sallé*), Jalapa (*Höge*); GUATEMALA (*Sallé*); NICARAGUA, Chontales (*Janson*); PANAMA, Volcan de Chiriqui (*Champion*).

Many specimens. The description given by Clark scarcely conveys a clear idea ot the elytral pattern of this species: the elytra are pale fulvous with a broad blue or green transverse band at the base, and a large similarly coloured patch of variable size below the middle; the posterior margin of the basal band is nearly straight, and extends nearly to the middle, but never to the lateral margin, which remains of the ground-colour; the space dividing the band and the spot is of variable size—in one specimen (from Nicaragua) it is extremely narrow, and nearly the entire disc blue. Clark describes the head as punctured, which is only the case near the middle portion; the vertex is divided by a longitudinal groove; the third joint of the antennæ is slightly longer than the fourth; the underside and legs are of a dark metallic bluish colour, not black as Clark says. I have examined nearly a hundred specimens of *M. ducalis*, and in none of them do I find the basal elytral band extend to the lateral margin.

2. **Monocesta jansoni.** (Tab. XXVII. fig. 2.)

Broadly ovate, dilated behind, blackish-blue; elytra opaque, fulvous, pubescent, a broad transverse band at the base (extending to the sides) and a large round spot below the middle, dark blue.
Length 8 lines.

Hab. NICARAGUA (*Sallé*), Chontales (*Belt*, *Janson*).

It will be sufficient to point out the differences between *M. jansoni* and *M. ducalis*. In *M. jansoni* the elytra are opaque instead of shining, on account of the very fine and close fulvous pubescence; the basal transverse band extends always to the lateral margins, and is more or less deeply dentate on its posterior edge; the posterior blue spot is of a more regularly rounded shape, and never extends to the suture, the reverse being the case in *M. ducalis*; the underside and the legs are nearly black. *M. jansoni* also averages rather larger in size than *M. ducalis*.

There are seven specimens before me, all of which exhibit the above described characteristic differences.

3. **Monocesta clarki.** (Tab. XXVII. fig. 6.)

Oblong-ovate, slightly widened behind; testaceous or fulvous; antennæ (the two basal joints excepted) and abdomen black; thorax closely punctured; elytra opaque, black-blue or green, finely granulate.

Length 4–5 lines.

Head very finely and closely punctured; antennæ about half the length of the body, the two basal joints flavous or fulvous, the rest black, the third joint as long as, or very slightly longer than the fourth, the four terminal joints the shortest; thorax three times as broad as long, the sides strongly rounded and subangulate at the middle, obliquely narrowed near the anterior angles, the latter obtuse, the surface deeply and broadly depressed on either side (more obsoletely in the middle), the disc closely rugose-punctate, fulvous or testaceous; scutellum testaceous, its apex broadly truncate; elytra (in some specimens) slightly widened behind, in others more parallel, very finely alutaceous or coriaceous, of a dark bluish or greenish colour.

Hab. Mexico, Playa Vicente (*Sallé*).

M. clarki resembles somewhat in colour *M. circumcincta*, Clark, from Brazil, but differs in the totally different shape and punctuation of the thorax, and in the want of the elytral flavous margin; the colour of the antennæ and that of the legs also differ, while the structure of the antennæ prevents the species from being confounded with *Cœlomera atrocærulea*.

4. **Monocesta depressa.** (Tab. XXVII. figg. 3, 4.)

Monocesta depressa, Clark, Ann. & Mag. Nat. Hist. 3rd ser. xvi. p. 267 [1].

Monocesta nicaraguensis, Jac. P. Z. S. 1877, p. 520 [2].

Hab. Nicaragua [2], Chontales (*Janson, Belt*); Costa Rica (*Van Patten*).—Colombia, Rio Magdalena [1], Bogota (*coll. Jacoby*).

In examining closely the different specimens before me, and the type of Clark, contained in the British Museum, I can come to no other conclusion than that *M. depressa* is a very variable species in regard to colour, and I have now no doubt that *M. nicaraguensis* represents merely the unicolorous form of Clark's insect. In the latter the posterior black portion of the elytra extends upwards nearly to the base, shading gradually into fulvous. In nearly all the specimens from Nicaragua the black portion occupies the posterior half of the elytra only, and is well defined from the fulvous part; a single specimen, however, agrees with the type, thus showing that the colour of the elytra is subject to great variation; in the variety *M. nicaraguensis* the elytra are entirely without black markings. The pubescence of the upper surface is close and rather long.

5. **Monocesta pallida.** (Tab. XXVII. fig. 5.)

Ovate, pale fulvous; antennæ (the first joint excepted), tibiæ, and tarsi black; head and thorax finely punctured and pubescent; elytra finely granulate-punctate, covered with fine pubescence.

Length 2½ lines.

Head finely granulate; antennæ two thirds the length of the body, black, the first joint fulvous, the third, fourth, and fifth joints nearly equal; thorax narrowly transverse, the sides slightly rounded below the middle, narrowed in front, the surface obsoletely depressed at the sides, finely punctured and pubescent;

elytra closely granulate-punctate, uniformly covered with short greyish pubescence; underside more shining, the tibiæ and tarsi black.

Hab. NICARAGUA, Chontales (*Janson*); PANAMA, Volcan de Chiriqui, Bugaba, David, Caldera (*Champion*).

Closely allied to *M. atricornis*, Clark, but smaller, paler in colour; the antennæ much longer and their joints proportionately more slender, the tibiæ and tarsi black. In some examples the antennæ are entirely black, and the elytra have a shade of fuscous towards their posterior portion; in others the thorax is spotted with piceous, owing probably to discoloration.

Only a single specimen was obtained in Nicaragua; many examples in the State of Panama.

6. **Monocesta cyaneo-maculata.** (Tab. XXVII. fig. 7.)

Testaceous; the apices of the tibiæ and the tarsi black; thorax sparingly and finely punctured; elytra closely pubescent, a narrow transverse band at the base and a spot below the middle, as well as the suture narrowly, blue, opaque.

Length 3 lines.

Head obsoletely and finely punctured; antennæ slender, two thirds the length of the body, the fourth joint slightly longer than the preceding or the following joints; thorax three times as broad as long, short, the sides produced into an angle at the middle, the surface obsoletely depressed at each side, finely and irregularly punctured, glabrous; scutellum broad, testaceous; elytra extremely minutely punctured and covered with short and fine pubescence rendering the surface entirely opaque, testaceous, a deeply dentate transverse band at the base (not quite extending to the lateral margin), an elongate spot at the sides below the middle, and the sutural margin, light blue.

Hab. MEXICO, Vera Cruz (*Sallé*).

This small species somewhat resembles *M. jansoni* in the pattern of its elytra; the small size, blue sutural margin, the short and transverse thorax, and the black apices of the tibiæ and tarsi will help to distinguish *M. cyaneo-maculata*.

7. **Monocesta höpfneri.**

Monocesta hopfneri, Clark, Ann. & Mag. Nat. Hist. 3rd ser. xvi. p. 267 [1].

Cœlomera höpfneri, Dej. Cat. 3rd ed. p. 400 [2].

Hab. MEXICO [1 2].

Of this and the following species a single specimen is contained in the British Museum. *M. höpfneri* greatly resembles *Trirrhabda* (*Dircema*) *modesta*, Baly, from Colombia, in coloration and sculpture, but the thorax is unspotted, and the general size larger, the elytra are also more finely punctured.

8. **Monocesta frontalis.**

Monocesta frontalis, Clark, Ann. & Mag. Nat. Hist. 3rd ser. xvi. p. 317 [1].

Hab. MEXICO, Campeche in Yucatan [1].

Distinguished by the black vertex of the head, the uniform flavo-testaceous colour, and the similarly coloured first six joints of the antennæ.

CŒLOMERA.

Cœlomera, Chevrolat, in D'Orbign. Dict. univ. d'hist. nat. iv. p. 75 (1844) ; Erichson, Archiv f. Naturg. 1847, i. p. 164 ; Clark, Ann. & Mag. Nat. Hist. 3rd ser. xvi. p. 318 (1865).

The only difference of importance between *Cœlomera* and *Monocesta* seems to be the very long third joint of the antennæ, a constant character. The rather numerous species are also generally of a more parallel form, and often have uniformly fuscous, black, or metallic elytra.

This genus is confined to Tropical America; one species is noted by Clark as being probably a native of our country, whence seven others are now known.

1. Cœlomera cayennensis.

Galeruca cajennensis, Fabr. Mant. Ins. i. p. 74[1] (1787); Oliv. Ent. vi. p. 617, t. 2. f. 15[2]; Latr. Voy. Humb. et Bonpl. i. p. 136, t. 15. f. 4[3] (1811) *.

Cœlomera cayennensis, Clark, Ann. & Mag. Nat. Hist. 3rd ser. xvi. p. 320[4].

Cœlomera peruana, Erichs. Archiv f. Naturg. 1847, i. p. 165[5].

Hab. Panama, Volcan de Chiriqui, Bugaba, David, Tolé (*Champion*).—Colombia[4]; Guiana, Cayenne[1 2 3 4]; Peru[4 5]; Brazil[4].

The specimens obtained by Mr. Champion agree in all particulars with those from Brazil contained in my collection.

2. Cœlomera lanio.

Galleruca lanio, Dalm. in Analect. ent. 1823, p. 75 ; Sahlb. in Thon. Arch. ii. 1, 1829, p. 26, t. 2. f. 26[1].

Cœlomera lanio, Clark, Ann. & Mag. Nat. Hist. 3rd ser. xvi. p. 320[2].

Cœlomera læta, Baly, Trans. Ent. Soc. Lond. 3rd ser. ii. p. 344 (1865)[3].

Hab. Nicaragua, Chontales (*Belt*).—Brazil[1 2], Rio Grande[3].

A single individual before me from Nicaragua seems to differ only in its very large size (7 lines) from the Brazilian specimens contained in my collection.

3. Cœlomera nigricollis. (Tab. XXVII. fig. 8.)

Cœlomera nigricollis, Jac. P. Z. S. 1879, p. 785[1].

Hab. Costa Rica, Rio Sucio, Cache, Volcan de Irazu[1] (*Rogers*).

The elytra are slightly metallic purple in colour, subdued by the short greyish pubescence; the head, antennæ, and the thorax are black, the latter is scarcely visibly punctured; the underside and the femora are testaceous.

* Latreille also gives Xalapa and the island of St. Thomas as localities, the latter possibly in error.

4. **Cœlomera olivieri.** (Tab. XXVII. fig. 9.)

Testaceous below; antennæ, tibiæ, and tarsi black; head, thorax, and scutellum rufous, the head with two large black spots on the vertex; elytra obscure purplish, covered with greyish pubescence, extremely closely punctured and rugose.

Length 6 lines.

Hab. GUATEMALA, Purula, Sabo (*Champion*).

As the only difference I am able to find between this and the preceding species is the colour of the head and thorax, it is possible that *C. olivieri* may be but a local variety of *C. nigricollis*; there are, however, no intermediate forms before me, and I must look at present upon *C. olivieri* as representing a distinct species; from *C. lanio*, Sahlb., and *C. cayennensis*, Fabr., the colour of the elytra sufficiently distinguish it.

5. **Cœlomera godmani.** (Tab. XXVII. fig. 10.)

Cœlomera godmani, Jac. P. Z. S. 1879, p. 785 [1].

Hab. NICARAGUA, Chontales [1] (*Belt*).

The colour of the elytra in this species is not black or bluish, but fuscous, the extreme sutural margin being lighter; the head and thorax have each two large black spots, their ground-colour, as well as that of the underside and femora, is a pale fulvous. *C. godmani* differs in several respects in regard to colour from *C. maculicollis*, Clark, and *C. binotata*, Dej. The two specimens of *C. godmani* before me differ in no perceptible way from each other.

6. **Cœlomera punctaticollis.** (Tab. XXVII. fig. 11.)

Parallel, obscure testaceous; antennæ, tibiæ, and tarsi black; head with two black basal spots; thorax distinctly punctured; elytra dark fuscous or obscure purplish, minutely granulate and punctured, finely pubescent.

Length 5–6 lines.

Head with a few very fine punctures and a longitudinal central groove, the base with two spots; antennæ with the third joint very long, the terminal joints short; thorax deeply transversely depressed, rather closely and irregularly punctured, testaceous, glabrous; scutellum testaceous; elytra clothed with fine and short grey pubescence, minutely punctured and granulate.

Hab. PANAMA, Volcan de Chiriqui, Bugaba (*Champion*).

The only difference of importance I am able to detect between *C. punctaticollis* and *C. godmani* and most of the allied forms consists in the very distinct punctuation of the thorax, and in the obscure testaceous colour of the head, thorax, and underside. Three specimens before me agree entirely in these particulars; I am obliged therefore to regard them as specifically distinct; it is, however, quite possible that *C. punctaticollis* is but a local variety of *C. olivieri* or *C. godmani*.

7. **Cœlomera atro-cærulea.** (Tab. XXVII. fig. 12.)

Cœlomera atro-cærulea, Jac. P. Z. S. 1878, p. 152 [1].

Hab. PANAMA [1], Volcan de Chiriqui, Bugaba (*Champion*).—PERU [1] (*coll. Jacoby*).

This insect is similar in general facies to many species of the genus *Monocesta*, it being broadly dilated posteriorly; the very long third joint of the antennæ, however, sufficiently indicates the species to belong to *Cœlomera*. Many specimens were obtained.

8. **Cœlomera maculicollis.**

Cœlomera maculicollis, Clark, Ann. & Mag. Nat. Hist. 3rd ser. xvi. p. 322 [1].

Hab. Honduras [1].

This species seems closely allied to *C. godmani*, but differs in having the thoracic spots differently placed and less in number. It is to be regretted that Clark thought fit to use the same specific name in such closely allied genera as *Cœlomera* and *Coraia*.

CORAIA.

Coraia, Clark, Ann. & Mag. Nat. Hist. 3rd ser. xvi. p. 323 (1865).

Coraia resembles in general shape many species of *Cœlomera*, from which genus it may be separated by the nearly equal length of the third and fourth joints of the antennæ, and by the very narrow elytral epipleuræ. The long antennæ and their robust joints are further characteristic of *Coraia*, and distinguish the genus from *Monocesta*. Only one species has been described, from Mexico.

1. **Coraia maculicollis.** (Tab. XXVII. fig. 13.)

Coraia maculicollis, Clark, loc. cit. p. 324 [1].

Cœlomera astuta, Chevr. Dej. Cat. 3rd ed. p. 400 [2].

Hab. Mexico [1 2], Etla, Tehuantepec (*Sallé*), Almolonga, Cordova, Misantla (*Höge*), Jalapa (*Morrison*); British Honduras, R. Sarstoon (*Blancaneaux*); Guatemala (*Sallé*).

Clark's description of this species does not convey a clear idea of its coloration: amongst the numerous specimens before me, there is not one in which the elytra have a blackish margin or shoulder as described by Clark; the elytra are generally of a reddish-fuscous colour, with a more or less distinct metallic-greenish gloss, which is particularly visible at the lateral margin. Clark makes no mention of this nor of the very fine greyish pubescence which covers the elytra; the underside as well as the femora are more or less distinctly spotted with greenish-æneous. In some specimens from Mexico the elytra, as well as the thoracic spots, are entirely of a greenish colour.

2. **Coraia clarki.** (Tab. XXVII. figg. 18, 19.)

Fulvous; antennæ black; the base of the head and the sides of the thorax covered with greenish-yellow hairs; elytra purplish or metallic green, almost glabrous, closely rugose and punctured.

Length 3–3½ lines.

Head short, rather broader than long, the vertex metallic green, covered with rather long yellow hairs; the frontal tubercles and the clypeus reddish-fulvous, shining; antennæ about half the length of the body, slightly longer in the male, rather robust, the third and fourth joints of equal length, these latter and also the following joints somewhat triangular in shape, the basal joints often fulvous at the base, the others

black; thorax more than twice as broad as long, the sides narrowed towards the base, fulvous, with a more or less metallic green spot at each side and at the middle, covered with long yellowish hairs, the surface obsoletely depressed at the sides, very sparingly and obsoletely punctured; scutellum broadly truncate at the apex, closely covered with thick pubescence; elytra nearly parallel, their epipleuræ distinct at the base, but very obsolete and narrow below the middle, the surface closely rugose-punctate throughout and of a purplish or metallic green colour; tibiæ not channelled but covered with close pubescence at the sides; the sides of the breast, the femora, and the tarsi more or less stained with metallic green; the first joint of the posterior tarsi as long as the two following joints together; claws bifid.

Hab. Mexico, Orizaba, Oaxaca, Etla (*Sallé*).

The antennæ in this insect are much shorter and more robust than in the more typical species, although the proportionate length of the joints is the same; as the shape of the thorax, general form, and the finely rugose elytra correspond exactly with *Coraia*, I have thought it best not to separate the present species from that genus.

NESTINUS.

Nestinus, Clark, Ann. & Mag. Nat. Hist. 3rd ser. xvi. p. 324 (1865).

There seems to me but little difference between this genus and *Trirrhabda*, Leconte, except in the larger size of *Nestinus*; both genera agree in the comparative length of the joints of the antennæ, in the three-spotted thorax, and other particulars. The three species described by Clark (who says that they are all from Mexico, although he only describes one from that country) seem to have been lost, as they are not contained in the British Museum; there is, however, one species before me which agrees perfectly with that author's description.

1. **Nestinus bimaculatus.** (Tab. XXVII. fig. 15.)

Nestinus bimaculatus, Clark, Ann. & Mag. Nat. Hist. 3rd ser. xvi. p. 325 [1].

Hab. Mexico (*coll. Jacoby*), Cuernavaca, Puebla (*Sallé*); Guatemala [1].

This large-sized species may be at once known by the flavo-testaceous colour of the elytra, each of which has a small round metallic blue spot placed near the apex. In one of my specimens the antennæ and the tarsi are nearly black; there is also generally a small black spot placed at the sides of the breast; I also refer a smaller-sized specimen from Puebla, which does not differ from the others, except in the want of the blue elytral spot, to the present species.

2. **Nestinus auriquadrum.** (Tab. XXVII. fig. 14.)

Testaceous; antennæ and tarsi fuscous; head with one, the thorax with three black spots; elytra rugose-punctate, reddish or greenish-cupreous, their margins broadly testaceous.

Length $4\frac{1}{2}$–$5\frac{1}{2}$ lines.

Head rather indistinctly punctured; antennæ nearly as long as the body, the fourth joint longer than the third; thorax with the sides rounded before the middle, the surface transversely and shallowly depressed, rather coarsely and irregularly punctured, with three small black spots placed transversely; scutellum broadly ovate, testaceous; elytra strongly rugosely punctured, the disc marked with a broad and subquadrate metallic cupreous patch, the sides of which are somewhat constricted towards the middle; the

underside and femora testaceous; the knees, the apices of the tibiæ, and the tarsi dark fuscous or piceous.

Hab. MEXICO, Puebla, Orizaba, Cuernavaca (*Sallé*), Tehuacan (*Höge*).

Many specimens were received of this species, which, I believe, is not uncommon in collections; it is apparently undescribed. *N. auriquadrum* agrees in structural characters with *N. bimaculatus*, and may be recognized by the broad testaceous margins of the elytra surrounding the bright metallic cupreous or greenish disc on all sides. The male has the last abdominal segment concave-emarginate at the middle; in the female the same part is simple but thickened at the sides.

3. Nestinus flavo-marginatus.

Nestinus flavomarginatus, Jac. P. Z. S. 1879, p. 789 [1].

Hab. MEXICO [1] (*coll. Jacoby*).

Closely allied to *N. auriquadrum*, but distinguished by the narrow testaceous elytral margin, and by the reddish-purple colour of the disc of the elytra, which is not interrupted by the testaceous basal margin as in the allied species, but extends quite to the base. The scutellum in *N. flavo-marginatus* is nearly black, and a narrow piceous margin limits the metallic colour of the elytra at the shoulders; the elytra are also rather more strongly rugose, the rugosities being more closely placed than in *N. auriquadrum*. There are three specimens of *N. flavo-marginatus* contained in my collection; they are labelled Mexico, without precise locality.

4. Nestinus viridis.

Monoxia viridis, Jac. P. Z. S. 1879, p. 787[1]*.

Hab. GUATEMALA, Zapote (*Champion*).

I find, now that I have been able, through the kindness of Dr. Horn, to examine typical species of the genus *Monoxia*, that the insect described by me as belonging to that genus differs totally from it and seems to me to be more properly placed in *Nestinus*. The dark green colour of the upper surface will at once assist in its recognition; the fulvous antennæ and similarly coloured and shining scutellum are further characteristic of *N. viridis*.

** *Tibiæ scarcely or not at all sulcate; claws sometimes simple* (Monoxia).

TRIRRHABDA.

Trirhabda, Leconte, Proc. Acad. Phil. 1865, p. 219.
Trirrhabda, Gemm. & Har. Cat. xii. p. 3575.

This genus was separated by Leconte from *Galeruca*, or rather *Galerucella*, on account of the narrow elytral epipleuræ, which do not extend to the tip, and the

* The generic name of this insect is erroneously given as *Monotia*.

different comparative length of the antennæ, in which the third joint is nearly always smaller than the fourth; this latter character the genus has also in common with *Nestinus*, to which it is in many respects closely allied. The elytra are, in most instances, covered with close and short pubescence; in some species, however, here described, they are of a metallic colour, with the surface finely rugose; these species might perhaps have been placed equally well in *Nestinus*.

The genus *Trirrhabda* was established on species inhabiting North America; none have been described from our country; one species, *Galerucella viburni*, inhabiting Europe, is placed by Crotch in the present genus. According to Weise (Insect. Deutschl. vi. p. 622) this cannot be the right place for *G. viburni*, on account of the different general shape and the open anterior coxal cavities; the latter in *Trirrhabda* ought to be closed, which is, however, not the case.

1. **Trirrhabda variabilis.** (Tab. XXVII. figg. 16, 17.)

Testaceous or fuscous; antennæ, tibiæ, and tarsi black; head and thorax pale fulvous, the former with one, the latter with three blackish spots; elytra green, blue, or violet, finely rugose and pubescent, the lateral margin narrowly flavous.

Length 3–4 lines.

Head finely punctured and pubescent, fulvous or testaceous, the vertex with a large blackish or bluish spot; labrum black; antennæ nearly two thirds the length of the body, black, the third joint distinctly shorter than the fourth; thorax about three times broader than long, rather finely and closely punctured, the disc obsoletely transversely depressed and with a large lateral and also a central black spot; scutellum black, covered with long pubescence; elytra clothed with rather long greyish hairs, closely and very finely rugose and punctured, of very variable colour, the lateral margin narrowly flavous, this colour extending to the apex; underside either flavous or blackish; tibiæ and tarsi of the latter colour.

Hab. MEXICO, Guanajuato, Cuernavaca, La Parada, Puebla, Orizaba, Coscomotepec (*Sallé*), San Miguelito, Hacienda de Bleados, San Luis Potosi (*Dr. Palmer*); GUATEMALA (*coll. Jacoby*).

Amongst the North-American species described by Leconte, I cannot find any resembling the present, on account of the colour of the elytra, *e. g.* green or blue with the lateral margins narrowly flavous. *T. luteo-cincta*, from San Diego, is described as having a broad yellow elytral margin, and the thorax remotely and largely punctured.

Since writing the above I have received, through the kindness of Dr. Horn, a specimen of *T. flavo-limbata*, Mann., which is closely allied to, if not identical with, the present species. The North-American specimen differs, however, in the nearly glabrous and shining thorax, and in the colour of the underside, which is metallic greenish and pubescent. The colour and sculpture of the elytra agree with *T. variabilis*.

2. **Trirrhabda ænea.**

Testaceous; antennæ black; the upper part of the head and three spots on the thorax metallic green; elytra greenish-æneous, the lateral and apical margins flavous, the surface finely wrinkled.

Length 2½–3 lines.

Head metallic green at the vertex, with a few coarse punctures near the eyes; the frontal tubercles strongly developed, testaceous, as well as the lower part of the face; antennæ black, the fourth joint longer than

the preceding or following ones; thorax twice as broad as long, testaceous, with three large metallic green spots placed transversely, the surface rather deeply depressed at the sides, coarsely but not very closely punctured; scutellum blackish; elytra finely transversely wrinkled and rugose throughout, the interstices very finely punctured, greenish or purplish-æneous, the lateral margins narrowly flavous; underside and legs testaceous, the tarsi slightly darker.

Hab. MEXICO, Yolotepec (*Sallé*).

Distinguished from *T. variabilis* by the wrinkled glabrous elytra, and the coarsely punctured thorax.

3. **Trirrhabda trifasciata.**

Testaceous, opaque, finely pubescent; antennæ, three thoracic spots, and the tibiæ and tarsi, fuscous; elytra closely pubescent, very finely punctured, the suture and a sublateral narrow band fuscous.

Length 3 lines.

Head nearly impunctate, with a fine central groove; antennæ nearly as long as the body, the third joint twice as long as the second, the fourth joint nearly double the length of the third, the three basal ones testaceous at their apices, the rest fuscous or nearly black; thorax transverse, rather strongly constricted at the base, the disc with two distinct depressions at the sides, finely and irregularly punctured, a spot at the middle and one at each side, black; scutellum fuscous; elytra closely covered with fine grey pubescence which nearly hides the punctuation, a sutural narrow and posteriorly attenuated stripe, as well as an equally narrow stripe (not quite extending to the suture at the apex) near to and parallel with the lateral margin, fuscous; underside and femora testaceous; tibiæ and tarsi nearly black.

Hab. MEXICO, Cordova (*Sallé*). A single specimen.

The narrow sutural and lateral elytral stripes, the latter being placed close to the lateral margin, separate *T. trifasciata* from *T. canadensis*, Kirby, and allied forms.

4. **Trirrhabda obscuro-vittata.** (Tab. XXVII. fig. 22.)

Obscure testaceous; antennæ, tibiæ, and tarsi fuscous; head with one, the thorax with three black spots, very finely rugose; elytra opaque, pubescent, greenish or brownish-fuscous, each with three raised testaceous narrow stripes from the base to the apex.

Length 4 lines.

Head testaceous, with a central longitudinal groove, the vertex occupied by a large fuscous spot; mandibles and part of the labrum piceous; antennæ black or fuscous, the basal joint and the base of the following one testaceous, the fourth joint one half longer than the third; thorax three times as broad as long, distinctly narrowed at the middle, the sides strongly rounded and forming a distinct angle before the middle, the surface very finely rugose and with the usual three blackish marks; scutellum testaceous, broad, its apex truncate; elytra nearly parallel, covered with short pubescence, finely coriaceous; the first joint of the posterior tarsi in the male as long as the three following joints together, rather shorter in the female.

Hab. BRITISH HONDURAS, R. Hondo (*Blancaneaux*); GUATEMALA, Cerro Zunil (*Champion*); NICARAGUA, Chontales (*Belt*); PANAMA, Bugaba (*Champion*).

The thorax in this species is distinctly narrowed at the middle. If the testaceous colour of the elytra (which are scarcely visibly punctured) is looked upon as the ground-colour, each elytron has four nearly equally wide longitudinal bands of an obscure fuscous colour, sometimes with a greenish tint; the fuscous bands become entirely obliterated near the apex; of the narrow testaceous stripes, the one near the lateral margin is generally raised in the shape of a more or less distinct costa.

5. **Trirrhabda mexicana.** (Tab. XXVII. fig. 21.)

Testaceous; head with one, the thorax with three blackish spots, finely rugose; elytra rugose-punctate, green, finely pubescent, each with two narrow longitudinal testaceous stripes.

Var. Elytra fuscous instead of green.

Length 4–4½ lines.

Head finely rugose, a large round spot on the vertex and the labrum piceous or fuscous; antennæ rather more than half the length of the body, dark fuscous, the third and fourth joints slender, equal, the following ones slightly shorter; thorax three times as broad as long, the sides rounded at the middle, the posterior margin sinuate near the angles, the surface with a shallow depression at the sides and another longitudinal one at the middle, closely rugose-punctate, a large spot occupying nearly the entire sides, and another central one of variable shape, fuscous; elytra slightly widened behind, more strongly rugosely punctured than the thorax, covered with short greyish pubescence, the green portion interrupted by two narrow longitudinal testaceous stripes, which, commencing at the middle of the base and running parallel to each other, are joined at a little distance from the apex of each elytron; the underside and the femora testaceous; the knees, tibiæ, and tarsi fuscous; the first joint of the posterior tarsi as long as the three following joints together; claws bifid.

Hab. Mexico, Panistlahuaca (*Sallé*), Cerro de Plumas (*Höge*).

In the variety from Panistlahuaca, the green portion of the slightly metallic elytra is replaced by a purplish-fuscous tint.

6. **Trirrhabda dilatipennis.**

Black; head and thorax testaceous, the former with one, the latter with three spots; elytra widened behind, finely coriaceous and pubescent, fuscous, the extreme lateral and sutural margins, as well as two longitudinal narrow stripes on each, testaceous.

Length 3½ lines.

Antennæ black, the third and fourth joints equal, the following ones slightly shorter; thorax two and a half times broader than long, very finely rugose; elytra wider than the thorax at the base, much dilated posteriorly, thinly clothed with yellowish pubescence.

Hab. Panama, Volcan de Chiriqui (*Champion*).

There is only a single specimen, and that evidently a female, before me. The much narrower thorax, the sides of which are slightly angulate at the middle, the black antennæ, scutellum, and legs, and the different shape of the elytra, will prevent *T. dilatipennis* being mistaken for *T. obscuro-vittata*; the elytra, instead of having three testaceous stripes on each, as in *T. obscuro-vittata*, have only two in the present insect, in which also the lateral margins are distinctly raised, though the rest of the surface is smooth and finely coriaceous.

7. **Trirrhabda (?) modesta.** (Tab. XXVII. fig. 20.)

Elongate, parallel, obscure fuscous, finely pubescent; antennæ, three spots on the closely punctured thorax, and the tibiæ and tarsi black; elytra very finely rugose-punctate.

Length 4 lines.

Head finely rugose, the upper part obscure fuscous, the lower part testaceous; the apices of the mandibles and the palpi piceous; antennæ more than half the length of the body, black, the fourth joint longer than the preceding and the following joints; thorax rather more than twice as broad as long, the sides rounded at the middle, the angles tuberculiform, the surface obsoletely impressed at either side, closely rugose and punctured, with three obscure black spots placed transversely; elytra very closely and finely rugosely punctured, covered with short and close greyish pubescence.

Hab. Mexico, Puebla (*Sallé*).

T. modesta may be separated from uniformly coloured varieties of *T. luteo-cincta*, Lec., by the very finely rugosely punctured elytra and the short pubescence, which gives the former an opaque and dull appearance; the thorax is more shining, very sparingly pubescent, but much more strongly punctured and rugose.

8. **Trirrhabda foveicollis.** (Tab. XXVII. fig. 23.)

Reddish-fulvous, the antennæ and tibiæ lighter; head rugose-punctate; thorax with two deep transverse foveæ, impunctate; elytra finely rugose and pubescent, dark fuscous, the lateral margin and a discoidal stripe from the base to the apex testaceous.

Length 4 lines.

Head finely rugosely punctured at the vertex; antennæ long and slender, testaceous, the basal joints slightly darker, the third joint rather more than double the length of the second, the fourth twice as long as the preceding joint; thorax three times as broad as long, short, the sides rather evenly rounded, the angles not prominent but thickened, the surface shining, rufous, impunctate, with a very deep transverse fovea at each side almost extending to the middle and occupying nearly the entire disc; elytra dilated posteriorly, finely rugose throughout, clothed with short pubescence, the narrow discoidal pale fulvous stripe commences at the middle of the base, and, after gradually approaching the suture, joins the similarly coloured margins at the apex; underside dark fulvous or rufous; legs testaceous.

Hab. Mexico, Playa Vicente (*Sallé*).

T. foveicollis, of which only a single (apparently female) specimen is before me, is not unlike *T. brevicollis*, Lec., in the pattern of the elytra, but is at once distinguished from that and the other species of the genus by the very deep depressions of the thorax in connection with the rugosely punctured head.

GALERUCELLA.

Galerucella, Crotch, Proc. Acad. Phil. 1873, p. 55; Weise, Insect. Deutschl. vi. p. 616 (1886).
Galeruca, Leconte & Horn, Class. Col. N. Am. p. 348 (1883).

The open anterior coxal cavities, closely pubescent elytra, unarmed tibiæ, and bifid claws are the principal structural characters peculiar to *Galerucella*. The genus contains at present, amongst its exotic members, a number of species which certainly belong to several different genera, on account of the closed coxal cavities and other differences. For several species described here it would perhaps have been as well to establish new genera, had I been able to point out characters of sufficient importance by which they might have been recognized. For most of the European species, *Galerucella* is sufficiently well characterized, but many of the exotic forms partially or totally lose the typical characters; new genera for the reception of these are, in my opinion, no advantage, since the differences seem to be of degree only. Chapuis seems to have overlooked characters of the present genus, and calls the anterior coxal cavities closed, mixing up the genus *Galeruca* (*Adimonia*), in which the cavities are closed, with *Galerucella*, in which they are open. This will necessitate a revision of the many described species sooner or later by a future monographer of the genus.

1. Galerucella notulata.

Galeruca notulata, Fabr. Syst. Eleuth. i. p. 489[1]; Olivier, Ent. vi. p. 636, t. 3. f. 44[2]; Leconte, Proc. Acad. Phil. p. 217 (1865)[3].

Hab. NORTH AMERICA[1 2 3].—MEXICO, Saltillo in Coahuila (*Dr. Palmer*), near the city of Mexico (*Flohr*), Tuxtla (*Sallé*); GUATEMALA (*coll. Jacoby*).

I have not much doubt that I am right in referring the specimens from the above localities to Fabricius's species. It seems to me that the only difference between *G. notulata* and *G. notata*, Fabr., consists in the position or direction of the elytral black stripes, the subsutural one in *G. notulata* uniting with the black sutural stripe below the middle (which is the case in all the specimens before me), but not in *G. notata*, where it is isolated. In some examples from Tuxtla the pubescence is rather longer and more distinct, obscuring to a certain extent the elytral stripes, the position of which can, however, be traced; the thoracic spots are also absent in one specimen, but present in others with similarly strong pubescence. Neither of the figures given by Olivier of *G. notulata* and *G. notata* quite agree with the Central-American specimens, nor with the descriptions of Leconte; it is possible that they are varieties of one another, as structural differences seem to be absent.

2. Galerucella alternata.

Oblong-ovate, greenish-fuscous; basal joints of the antennæ and the legs obscure testaceous; thorax deeply transversely depressed at the sides; elytra closely covered with yellow pubescence, each with the lateral margin and two more or less distinct longitudinal stripes greenish.

Var. Above dark yellowish, the elytral stripes slightly darker.

Length 2–2½ lines.

Head greenish, pubescent, scarcely visibly punctured, with a central longitudinal groove, the frontal tubercles flattened; antennæ nearly two thirds the length of the body, obscure fuscous or paler, the basal joints more testaceous, the third joint not longer than the fourth; thorax twice as broad as long, the sides rounded, all the angles obtuse, the surface very finely rugose, scarcely pubescent, and with a deep transverse depression on each side, extending nearly to the middle; elytra closely covered with yellow pubescence which almost entirely obscures any punctuation, each with two more or less distinct greenish stripes (which are joined at the ends) on the middle of the disc; in the male the last abdominal segment is broadly emarginate in the middle and the sides are transversely impressed, in the female the same part is nearly simple.

Hab. MEXICO, Oaxaca (*Höge*); GUATEMALA, San Gerónimo, Las Mercedes, La Tinta, San Juan in Vera Paz (*Champion*); PANAMA, Volcan de Chiriqui, Bugaba, David (*Champion*).

Typical examples of *G. alternata* may be known by the two greenish, closely approached elytral stripes; occasionally, however, these latter are almost entirely obsolete. The antennæ are rather longer than in the allied species, and the intermediate joints are somewhat thickened and robust; in the specimens from Las Mercedes they are rather more slender. In the variety, which shows no trace of green, the elytral stripes are just visible, being slightly darker than the yellowish-brown ground-colour.

3. Galerucella lineatipennis.

Narrowly elongate, parallel, piceous below; antennæ black; thorax rufous, pubescent, stained with fuscous; elytra closely and finely pubescent, coriaceous, greenish, each with two thin longitudinal pale lines; femora testaceous.

Var. Elytra obscure testaceous.

Length $1\frac{3}{4}$ line.

Head obscure fulvous, with a central longitudinal groove, closely pubescent; labrum blackish; antennæ half the length of the body, the third joint the longest; thorax twice as broad as long, the sides rounded before the middle, the posterior angles oblique, the surface with a transverse depression at the sides, and another of a more longitudinal shape at the middle, rufous, covered with short but close pubescence, without visible punctuation; scutellum nearly black; elytra finely coriaceous, the ground-colour of each divided from the base to near the apex by two obscure pale subparallel lines; the apices of the tibiæ and the tarsi fuscous.

Hab. Panama, Volcan de Chiriqui (*Champion*).

Distinguished from *G. alternata* by its narrow and parallel shape, the rufous thorax, and the different pattern of the elytra; these latter have the paler lines dividing the greenish ground-colour placed at equal distances, so that the darker colour consists of three longitudinal bands of equal width; in *G. alternata* the greenish lines are placed close together on the middle of the disc, dividing the ground-colour at uneven distances.

4. Galerucella (?) transversicollis. (Tab. XXVIII. fig. 1.)

Ovate, widened posteriorly, entirely dull testaceous, finely pubescent; apical joints of the antennæ fuscous; thorax short, transversely depressed; elytra semirugose-punctate, finely pubescent, each with two smooth raised lines from the base to the apex.

Length $2\frac{1}{2}$ lines.

Head nearly impunctate, with a longitudinal central groove extending to the clypeus, the latter but slightly thickened and rather flat and broad; antennæ slender, the third joint elongate and the longest, the five lower joints testaceous, the rest fuscous; thorax very short, three times as broad as long, the sides strongly rounded at the middle, the posterior margin slightly sinuate at the angles, the disc with a deep and sinuate transverse depression, the surface finely pubescent and scarcely visibly punctured; scutellum broad, its apex truncate; elytra finely rugosely punctured, each with two narrow longitudinal raised lines at the middle of the disc, the sides narrowly margined; the first joint of the posterior tarsi scarcely longer than the second; tibiæ unarmed; claws bifid; anterior coxal cavities open.

Hab. Panama, Tolé (*Champion*).

The short and entirely transversely depressed thorax, the slender antennæ, and the short basal joint of the posterior tarsi would have perhaps justified the separation of this species from *Galerucella*; in the absence of other species of similar structure I have, however, at present abstained from the erection of another genus, as the shape of the thorax is often found to vary considerably; the pubescence and punctuation, as well as the shape of the elytra, agree entirely with *Galerucella*. Mr. Champion describes *G. transversicollis* as a very handsome insect when alive, of a pale straw-yellow, with a longitudinal pink stripe edged with black externally on each elytron. Of this there is now no trace to be found, but in some specimens there is a faint narrow fuscous stripe to be seen running parallel to the lateral margin.

5. **Galerucella fusco-maculata.** (Tab. XXVIII. fig. 2.)

Elongate, parallel, finely pubescent; obscure pale testaceous, opaque; thorax with three obscure fuscous spots; elytra very finely punctured and coriaceous, pubescent, each with three more or less distinct longitudinal, partly interrupted, fuscous bands.

Var. Elytra almost entirely fuscous.

Length 2–2½ lines.

Hab. MEXICO, Jalapa, Cerro de Plumas (*Höge*); BRITISH HONDURAS, R. Hondo (*Blancaneaux*); GUATEMALA, Las Mercedes, Zapote, San Gerónimo, Cubilguitz, Chiacam, La Tinta, Chacoj, San Juan in Vera Paz (*Champion*); NICARAGUA, Chontales (*Janson*); PANAMA, Bugaba, Volcan de Chiriqui, David, San Lorenzo (*Champion*).

If I refer rightly the numerous specimens from the above localities to one species, *G. fusco-maculata* is subject to great variation in regard to size and general colour. I cannot find any published description agreeing with this species, although it may be one of those described by Leconte. In the insect before me the antennæ are less than half the length of the body, fuscous or lighter; the thorax is short and transverse, with rounded sides and oblique posterior angles, the surface depressed at the sides and near the base, finely granulate and pubescent, with or without fuscous markings; the elytra are more distinctly punctured than the thorax, pubescent and entirely opaque, and may be described as pale or darker fuscous, each having three narrow whitish lines which divide the ground-colour longitudinally, the ground-colour is often broken up into longitudinal spots of equal width, which sometimes, as well as the lighter lines, are very indistinct; the legs are either testaceous or fuscous. Some specimens from British Honduras are much narrower in shape than others from Guatemala and the State of Panama, but, in spite of this difference and that of colour, I cannot find sufficient marks of distinction to separate these forms. A specimen from Cerro de Plumas is figured.

6. **Galerucella marmorata.** (Tab. XXVIII. fig. 3.)

Obscure fuscous or fulvous below; clypeus and legs testaceous; femora with a black spot; thorax reddish-fulvous, with three black spots; elytra finely pubescent and punctured, fuscous, each with two or three pale narrow longitudinal lines.

Length 3 lines.

Hab. MEXICO (*Sallé*); GUATEMALA, Panima in Vera Paz (*Champion*).

Larger and more robust than *G. fusco-maculata*, but almost identical in coloration; the head is covered with thin yellowish pubescence; the antennæ are black, more robust, and the terminal joints are slightly thickened; the thorax is shaped as in *G. fusco-maculata*, but of a reddish colour, with three large round black spots occupying nearly the entire disc, the surface covered with fine silky yellow hairs, the usual depressions are present, but the punctuation is scarcely visible; the elytra are very finely (in one specimen) or more distinctly rugosely-punctured, covered with greyish hairs, and each marked with three broad longitudinal fuscous bands, the sutural one being interrupted before and below the middle by an obscure fulvous spot, a similarly

coloured spot being visible at the apex, a longitudinal slightly raised narrow line (evidently caused by light-coloured pubescence), commencing at the shoulder but not extending quite to the apex, divides the other bands at some distance from the lateral margin; all the femora are marked with a piceous spot at the middle, and the apices of the tibiæ are more or less fuscous. In the Guatemalan specimen the antennæ are rather shorter, and the pale fulvous elytral spots are replaced by greyish pubescence; the darker portion of this latter is in the shape of a spot at the base; another spot at the middle near the suture and two or three others at the apex of the elytra are plainly visible to the naked eye, these markings agreeing entirely with the specimen from Mexico.

7. **Galerucella godmani.** (Tab. XXVIII. fig. 4.)

Fuscous; the first joint of the antennæ and the legs testaceous; thorax obscure testaceous, with three fuscous spots; elytra densely pubescent, closely punctured, fuscous, each with a longitudinal narrow and a broader testaceous line.

Length $2\frac{1}{2}$ lines.

Head depressed at the middle of the vertex, the latter fuscous, the lower part of the face testaceous; clypeus in the form of a V-shaped, transverse, strongly raised ridge; antennæ short and stout, the intermediate joints slightly widened, black, the two basal ones testaceous below; thorax more than twice as broad as long, finely pubescent and rugose, the sides very slightly rounded near the base, the posterior margin sinuate on each side, the angles obtuse, the disc with the usual shallow lateral and central depressions, and three rounded obscure fuscous spots; scutellum transverse; elytra much more distinctly rugosely punctured than the thorax, closely pubescent, near the suture a narrow slightly raised pale line divides the darker portion, and a similar, much broader, and flat testaceous stripe is placed towards the sides, neither of these lines extending quite to the apex; the underside, the extreme apices of the tibiæ, and the tarsi are fuscous, the legs testaceous.

Hab. GUATEMALA, Pantaleon (*Champion*). A single specimen.

This species is of a parallel and rather flattened shape, and may be known by the two pale elytral stripes being of different width.

OPHRÆA.

Antennæ with short joints, slightly thickened towards the apex. Thorax transverse, of variable shape, the posterior angles oblique, the sides often angulate at or before the middle; the surface with a lateral and a central depression, finely rugose and pubescent. Elytra nearly impubescent, closely and generally finely rugose. Tibiæ unarmed; claws bifid. Anterior coxal cavities open.

It is not expedient, in my opinion, to place the following insects (with their different general appearance, shorter antennæ, and finely rugose and nearly impubescent elytra) in the genus *Galerucella*, in which the upper surface is closely covered with hairs, and the antennæ are longer and more slender. Although not all the species described here under the genus *Ophræa* are of the same shape, in regard to the thorax, yet all agree in the rugose and sometimes metallic elytra. It may be as well to mention here that *O. subcostata*, *O. rugosa*, and *O. ænea* are of a more posteriorly dilated shape, resembling in that respect a species of *Galeruca* (*Adimonia*), while the other species are more

parallel, with the sides of the thorax more rounded. In some instances, again, forms occur which seem to be intermediate between this genus and *Schematiza*, so that their proper place must remain at present a matter of doubt. Moreover the variation in the shape of the antennæ and thorax of several species may lead to further subdivision; but at present I provisionally include these in *Ophræa*, which may in all cases be recognized by the nearly impubescent and rugose elytra.

a. *Species of posteriorly dilated shape, the thorax transverse and angulate at the sides.*

1. **Ophræa subcostata.** (Tab. XXVIII. fig. 5.)

Ovate, convex, somewhat dilated, black; thorax fulvous, with a black central band, its surface rugose, the posterior angles moderately sinuate; elytra rugose-punctate, black, each with two or three obtusely raised longitudinal costæ.

Length 3–3½ lines.

Hab. MEXICO, Capulalpam (*Sallé*); GUATEMALA, Purula (*Champion*).

There are sufficient differences to be found between this species and *O. rugosa* to justify their separation. *O. subcostata* is of a more convex, posteriorly dilated shape, and therefore less parallel; the antennæ in the male are rather longer, the third and fourth joints being much more elongate than in *O. rugosa*; the thorax is angulate only below the middle (instead of having another intermediate angle) and its posterior margin is straighter and but slightly sinuate or emarginate at the sides, besides having a straight black band on the centre of the disc from the base to the apex; the elytra have the same kind of longitudinal depressions as are visible in the allied species, but the interstices preceding them are more distinctly raised and plainly visible to the naked eye; the female has the sides of the last abdominal segment spotted with testaceous, as in *O. rugosa*. The single specimen from Mexico before me is rather smaller than, though agreeing in other respects with, those from Guatemala; the latter all show the above-mentioned differences.

2. **Ophræa rugosa.** (Tab. XXVIII. fig. 6.)

Elongate, nearly parallel, black; thorax rufous or flavous, coarsely rugose, the posterior angles deeply sinuate; elytra finely rugose, with two or three obsolete longitudinal depressions.

Length 4 lines.

Head closely rugose-punctate; eyes small, entire; antennæ not extending to half the length of the body, the second joint short, the fourth one half longer than the third, the following joints flattened and shorter; thorax twice as broad as long, or somewhat broader, the lateral margins more or less distinctly angulate immediately before and below the middle, the posterior angles deeply sinuate and obliquely shaped, the posterior margin straight at the middle, the surface strongly and irregularly rugose, obsoletely depressed at the sides and at the middle; scutellum broad, its apex broadly rounded; elytra much more finely rugose than the thorax, with several obsolete, longitudinal depressions, the one near the lateral margin more distinct and bounded inwardly by a broadly rounded ridge commencing at the shoulder but abbre-

viated near the apex; the last abdominal segment of the male emarginate at the apex, that of the female simple, a testaceous spot on each side in both sexes.

Hab. MEXICO, near the City (*Flohr, coll. Jacoby*), Juquila (*Höge*); COSTA RICA (*Van Patten*).

Differs from the preceding species in its more parallel shape, and in the want of the thoracic black band and elytral costæ.

3. **Ophræa ænea.** (Tab. XXVIII. fig. 7.)

Entirely brownish-æneous; legs testaceous, the knees, the apices of the tibiæ and the tarsi, blackish; the upper surface entirely and closely rugose.

Length $3\frac{1}{2}$ lines.

Head closely rugose; the clypeus testaceous; thorax scarcely more than one half broader than long, the anterior angles produced into a short tooth, the sides distinctly angulate below the middle, the disc broadly longitudinally grooved in the centre, more obsoletely so at the sides; elytra widened below the middle, without any raised costæ, closely rugose and wrinkled, the interstices furnished with a very few short hairs; epipleuræ broad and concave at the shoulders, extending nearly to the apex.

Hab. MEXICO, Oaxaca (*Höge*).

The single specimen received has unfortunately lost the antennæ, but as all the characters peculiar to *Ophræa* are present I have placed it in this genus. The species may at once be known amongst its allies by the uniform bronze colour and the testaceous legs; the thorax is less transverse and rather longer than in *O. rugosa*.

b. *Species of more parallel shape, the thorax rounded at the sides.*

4. **Ophræa metallica.** (Tab. XXVIII. fig. 8.)

Black below; thorax and femora obscure fulvous; elytra dark æneous, covered with very short yellow pubescence, strongly rugosely punctured.

Length $2\frac{3}{4}$ lines.

Head obscure fuscous or fulvous, the clypeus lighter; the vertex finely rugose, rather thickly clothed with yellow pubescence; antennæ short, black, the third joint slightly longer than the fourth, the following ones scarcely shorter; thorax three times as broad as long, the anterior angles produced into a short tooth, the sides rather strongly rounded before the middle and forming an obsolete angle, the posterior margin slightly rounded and sinuate at the angles, the surface flattened at the sides, forming a broad depression, another very obsolete, more longitudinal depression is placed at the middle of the disc, the latter irregularly and closely rugose, sparingly clothed with yellow hairs; scutellum broadly ovate, pubescent; elytra nearly parallel, narrowly margined, with some obsolete, longitudinal, smooth, raised lines, the entire surface strongly rugosely punctate, the punctures deeply impressed and larger on the middle of the disc than at the sides, of a metallic brownish-æneous colour, near the extreme margin with purplish reflections, the apices and the sides covered with thin yellowish pubescence; epipleuræ broad, finely punctured, and extending to the apex.

Hab. MEXICO, Capulalpam (*Sallé*).

This species may be separated from *O. rugosa* by the elytra being metallic in colour and deeply punctured, and the thorax differently shaped.

5. **Ophræa melancholica.** (Tab. XXVIII. fig. 9.)

Narrowly elongate, black; clypeus fulvous; thorax minutely punctured; elytra finely rugose, black, with a slight purplish tint at the sides, sparingly pubescent.
Length 2 lines.

Hab. MEXICO, Juquila (*Sallé*), Oaxaca (*Höge*).

The entirely black colour, with the exception of the fulvous lower part of the face, and the finely rugose upper surface of all the parts, will separate *O. melancholica* from any of the preceding species. The shape of the thorax agrees rather more with that of a species of *Schematiza* (the sides being rounded and the anterior and posterior margins nearly straight), but the entire absence of any dilatation of the antennæ (which are only somewhat thickened towards the terminal joints) prevents the species being placed in that genus; the elytra are sculptured like the thorax, finely and sparingly pubescent; the thorax is shallowly depressed at the sides and at the middle. *O. melancholica* may also be known from any of the preceding species by its entirely black colour.

6. **Ophræa minor.**

Ovate, slightly widened posteriorly, black; thorax rufous, minutely rugose and pubescent; elytra more distinctly rugose, finely pubescent towards the sides.
Length 2 lines.

Hab. MEXICO, Capulalpam (*Sallé*).

This insect is almost identical in coloration with *O. rugosa*, and it will only be necessary to point out the differences: *O. minor* is smaller in size, with the thorax scarcely visibly punctured (in *O. rugosa* this part is coarsely rugose); the elytra are also more finely rugose, and show scarcely any traces of depressions; the thorax is not angulate at the sides and its anterior and posterior margins are nearly straight; the legs are black, but the coxæ are generally fulvous. *O. metallica* differs from the present insect by the very deep and strong elytral punctuation.

7. **Ophræa elongata.**

Elongate, black, the margins of the thorax and the femora more or less flavous; elytra scarcely pubescent, obscure metallic greenish or æneous, rugose throughout.
Var. Elytra and legs black; thorax entirely fulvous.
Length $2\frac{1}{2}$–3 lines.
Head very finely rugose, the vertex black, the clypeus testaceous; antennæ about half the length of the body, the third joint the longest; thorax about twice as broad as long, the anterior angles produced into a very small tooth, the sides more or less rounded at the middle, or obtusely angulate, the surface sculptured like the head, covered with yellowish pubescence, flavous, with the middle of the disc more or less broadly fuscous; scutellum obscure æneous; elytra much more strongly rugose than the thorax, with a metallic purplish or greenish hue, the sides clothed with short silky pubescence.

Hab. MEXICO, Guanajuato, Yolotepec, Istapan (*Sallé*); GUATEMALA, Zapote, Capetillo (*Champion*).

This species differs from *O. minor* in its more slender and narrowly elongate shape, in the black band of the thorax, and in the longer antennæ. I have also included here, provisionally, the specimens from Capetillo, although they seem to be intermediate between this and the preceding species: some of these are devoid of a black thoracic band, and have black elytra and legs, besides being of smaller size, and it is therefore possible that they represent an allied but different species.

MONOXIA.

Monoxia, Leconte, Proc. Acad. Phil. 1865, p. 221 ; Leconte and Horn, Class. Col. N. Am. p. 348 (1883).

Monoxia was established by Leconte on some small species, mostly testaceous in colour and with more or less spotted elytra; it is separated from the preceding genera by the short antennæ, the joints of which (with the exception of the third) are not elongate, but rather broader than long, and gradually dilated towards the apex; another character, supposed by Crotch to be a sexual one, is the sometimes simple claw in *Monoxia*. The different species do not seem at present to be well defined; all are apparently subject to a good deal of variation, and necessitate long series for examination; those hitherto described are from North America. Two or three species from our country agree so closely with North-American forms, that I am unable to separate them; the one described by myself from Guatemala was wrongly placed in *Monoxia*, the genus being known to me from description only at that time.

1. **Monoxia obtusa.** (Tab. XXVII. fig. 24.)

Monoxia obtusa, Lec. Proc. Acad. Phil. 1865, p. 222[1].

Hab. North America[1].—Mexico, Northern Sonora (*Morrison*).

I believe that I am right in referring the few specimens from Sonora before me to Leconte's species. The elytra in these examples are uniformly pale testaceous in colour, and densely clothed with rather long greyish hairs, which obscure any punctuation; they are devoid of black spots, though in certain lights, and with a strong lens, some very obscure small pale spots arranged in rows may be seen. The underside is of a darker fuscous colour; the claws appear to be simple. In size the Sonoran insect is larger than any of its allies known to me. A North-American specimen kindly sent me by Dr. Horn, and doubtfully referred by him to *M. obtusa*, agrees entirely with those from Sonora. In the Munich Catalogue *M. guttulata*, Lec., is given as a variety of *M. obtusa* on the authority of Crotch (*cf.* Proc. Acad. Phil. 1873, p. 56); but as Leconte's description gives two impressions of the elytra as a character of distinction from *M. obtusa*, it probably refers to another species.

2. **Monoxia guttulata?** (Tab. XXVII. fig. 25.)

Monoxia guttulata, Lec. Rep. Pac. Surv. 1857, p. 70 [1].

Hab. North America, California [1].—Mexico, Northern Sonora (*Morrison*).

It is probable that I am rightly referring the Sonoran specimens to *M. guttulata*; these all have longitudinal depressions on the elytra, one of the characters given by the author as peculiar to that species. A specimen before me, supposed to be *M. guttulata* and kindly sent to me by Dr. Horn, is marked like *M. debilis* and *M. obtusa*, so that there seems to be doubt about these species. It will be seen from the figure given here that in the Mexican examples of what I suppose to be *M. guttulata* the elytra are closely spotted with black, and the thorax also showing several black markings, besides being very short and transverse. The underside is generally piceous, the abdomen being sometimes paler, and the claws in those specimens which I have examined seem to be simple. The femora and tibiæ are generally each marked with a small piceous spot.

3. **Monoxia debilis?**

Monoxia debilis, Lec. Proc. Acad. Phil. 1865, p. 222 [1].

Hab. North America, California [1].—Mexico, Tupataro (*Sallé*).

In the Munich Catalogue this insect is given as a variety of the preceding; whether this is correct or not I am unable to say. The single Mexican specimen before me agrees very nearly with the description of *M. debilis*. There is no longitudinal depression of the elytra visible as in *M. guttulata*, and the markings are confined to three or four rows of single distant spots which form a short stripe only near the suture.

4. **Monoxia semifasciata.**

Oblong ovate, finely pubescent, black; thorax testaceous, rugose; elytra more finely rugose, fuscous, with traces of longitudinal fulvous bands.

♂. Claws obsoletely appendiculate; ♀, claws simple.

Length 2 lines.

Head closely rugose, fuscous; the distinctly raised frontal tubercles and the clypeus, testaceous, shining; antennæ not extending much further than the base of the elytra, black, the third joint long, the following one slightly widened, short, and of equal length; thorax rather more than twice as broad as long, the sides slightly rounded, the anterior angles not prominent, the posterior ones slightly oblique, the posterior margin a little concave-emarginate at the middle, the surface closely and irregularly rugose, more or less distinctly depressed at the middle and at the sides, rather shining, and almost without pubescence; scutellum testaceous, pubescent, its apex broadly truncate; elytra rather flattened, very closely and finely rugose, covered with greyish and distinct but not thick pubescence, obscure fuscous, each with some obscure fulvous spots of longitudinal shape near the sutural and lateral margins; the underside and the legs black, rather shining, the abdominal segments narrowly margined with fulvous; the apex of the last abdominal segment in the male triangularly excavated at the middle, the sides rounded, that of the female slightly emarginate.

Hab. Guatemala, Champerico (*Champion*).

In the rather long series obtained of this insect the only variation at all noticeable is the almost entirely dark fuscous colour of the elytra in some specimens. If *M. semifasciata* is taken as an example, it will be seen that the simple or appendiculate claws are attributable to sexual differences, and that this applies probably to those species separated by Leconte into two sections according to this structure. This insect was only met with on the Pacific coast at Champerico.

SCHEMATIZA.

Schematiza (Chevr.), Blanchard, Hist. des Ins. ii. p. 190 (1845); Clark, Trans. Ent. Soc. Lond. 1864, p. 259.

In most instances, a species of the genus *Schematiza* is easily recognized by the flattened and dilated intermediate joints of the antennæ, and the general shape of the body, which strongly resembles that of some species of "Lycidæ." Certain species, however, are now known in which the peculiar structure of the antennæ, as well as the general shape, is so modified as to create great doubt as to their proper position; these modified forms might equally well be placed in *Galerucella*, having some of the characters of that genus and of *Schematiza*. Amongst the Central-American species here described for the first time, there are some in which the shape of the thorax is partly or entirely typical of *Schematiza*, while the antennæ are formed as in *Galerucella*. I prefer placing these doubtful forms in genera with which they seem to have the greatest affinity, rather than make new and unsatisfactory ones for their reception.

1. **Schematiza collaris.** (Tab. XXVIII. fig. 15.)

Elongate, black, scarcely pubescent; clypeus testaceous; thorax light fulvous, with a central black band, finely pubescent; elytra black, finely rugose.

Length 3–4 lines.

Head finely rugose, the vertex black, the clypeus testaceous; antennæ rather robust, the third joint the longest, the following joints of nearly equal length; thorax more than twice as broad as long, the sides almost evenly rounded and without angle, the posterior margin slightly sinuate at the sides, the posterior and anterior angles acute but not produced, the surface with a more or less deep longitudinal depression at each side (causing the basal portion to appear transversely raised), covered with rather long and close yellowish pubescence which nearly obscures the finely rugose punctuation, in colour pale reddish-fulvous, interrupted at the middle by a more or less black longitudinal band from the base to the apex; scutellum broad, black, finely rugose; elytra nearly parallel (♂) or slightly widened (♀), black, the extreme margin narrowly raised, the entire surface finely and closely rugose, sparingly clothed with very short, scarcely visible pubescence; epipleuræ rather broad, extending to the apex; tibiæ unarmed; the first joint of the posterior tarsi scarcely so long as the following two joints together; the entire underside and the legs rather shining, scarcely pubescent.

Hab. MEXICO, Puebla, Cordova (*Sallé*), Oaxaca (*Höge*); GUATEMALA, San Gerónimo, Senahu (*Champion*).

The antennæ in *S. collaris* are closely approached, and show only a slight dilatation

of the intermediate joints, so that this species seems almost to form a link between *Galerucella* and *Schematiza*; the thorax has, however, a lateral and central depression and is formed as in the following species, and the elytra show the same finely rugose and scarcely pubescent surface. The want of the apical fulvous spot to the elytra and the larger size separates *S. collaris* from *S. apicalis*, Clark.

2. **Schematiza bicolor.** (Tab. XXVIII. fig. 14.)

Oblong, slightly widened, subdepressed, fuscous; clypeus testaceous; thorax fulvous or flavous, finely pubescent; elytra dark fuscous, closely pubescent; antennæ strongly dilated.

Length 3–4 lines.

Head finely coriaceous; antennæ fuscous, the third to the eighth joints strongly dilated and compressed, the two terminal joints slender; thorax reddish or yellowish, the sides strongly rounded and narrowed towards the apex, the posterior margin perfectly straight, the surface broadly and deeply depressed at the sides, finely pubescent, the pubescence obscuring any punctuation; scutellum broad, its apex broadly rounded; elytra slightly widened posteriorly, the apices broadly rounded, dark fuscous, finely coriaceous, and closely pubescent; underside and legs more shining, nearly black.

Hab. PANAMA, Volcan de Chiriqui, Bugaba (*Champion*).

The strongly dilated antennæ, the slightly widened general shape, and the uniformly coloured elytra (which are destitute of any costæ) will distinguish *S. bicolor* from any of the species described by Clark.

3. **Schematiza chontalensis.** (Tab. XXVIII. fig. 17.)

Depressed, widened behind, fuscous; antennæ strongly dilated; thorax fulvous; elytra finely pubescent, the lateral margin narrowly testaceous.

Length 3 lines.

Head very finely rugose, fuscous, the clypeus testaceous; antennæ piceous or black, triangularly dilated and flattened from the third joint, the three apical joints slender; thorax more than twice as broad as long, the sides rounded, the anterior and posterior margins straight, the surface deeply impressed at the sides, the latter testaceous, the middle of the disc more or less stained with fulvous or rufous, very finely punctured and pubescent; elytra dilated posteriorly, closely pubescent and very finely rugosely punctured, the base and the lateral margin very narrowly testaceous; underside and legs piceous, more or less stained with testaceous.

Hab. NICARAGUA, Chontales (*Janson*).

This species resembles *S. bicolor* in general shape, but differs in the pale basal and lateral margins of the elytra.

4. **Schematiza lateralis.** (Tab. XXVIII. fig. 16.)

Obscure fuscous; antennæ black; thorax obscure fulvous, the disc black; elytra closely rugose, each with a narrow testaceous stripe near the lateral margin, and a fulvous spot at the apex.

Length 2–3 lines.

Head finely rugose, fuscous, the clypeus and the labrum testaceous; antennæ not extending to half the length of the elytra, black, the third joint the longest; thorax twice as broad as long, the sides rounded, the anterior and posterior margins straight, the surface with an irregular depression at the sides, the punctuation obscured by the close pubescence, the latter of a silvery-grey colour at the sides and more or less reddish-fulvous towards the middle, the disc being occupied by a longitudinal black or fuscous band;

elytra narrow and parallel, more distinctly punctured than the thorax, clothed with short and fine pubescence, a triangular testaceous or fulvous spot at the extreme apex of each, the sides with a narrow longitudinal pale stripe, the latter forming a distinct acute ridge owing to the perpendicularly deflexed lateral margin; legs and the abdomen more or less testaceous, the rest of the underside fuscous.

Hab. MEXICO, Oaxaca (*Sallé*); PANAMA, Volcan de Chiriqui, Bugaba (*Champion*).

The antennæ in this species are scarcely, if at all, dilated in the middle; *S. lateralis* agrees in this respect, as well as in general shape and colour, with *S. apicipennis*, Clark, but may be readily recognized by the pale lateral stripe to the elytra, the deflexed sides of which are invisible when the insect is viewed from above. Many specimens were obtained.

5. **Schematiza sallæi.** (Tab. XXVIII. fig. 10.)

Narrowly parallel, fuscous; lower part of the face and the femora testaceous; thorax obscure rufous, the sides marked with black; elytra finely pubescent, fuscous, a spot at the apex of each fulvous.

Length 3 lines.

Head finely rugose, the vertex black or fuscous, the lower part testaceous; antennæ slender, half the length of the body, black, the third joint elongate and much longer than the following ones; thorax transverse, the sides rather rounded, the anterior and posterior margins straight, the posterior angles somewhat oblique, the surface finely pubescent (obscuring the punctuation), more or less rufous, with a piceous more or less distinct longitudinal band at each side, the sides themselves and the middle of the disc often yellowish; scutellum fuscous, broad, its apex truncate; elytra parallel, their apices produced into a small tooth, the surface finely rugose and pubescent and of a uniform dark fuscous colour, the apex of each with a round yellowish spot (tinged with rufous) generally not quite extending to the suture.

Hab. MEXICO, Tuxtla, Capulalpam, Playa Vicente, Toxpam (*Sallé*), Oaxaca (*Höge*); GUATEMALA, Senahu, Teleman, San Juan in Vera Paz (*Champion*).

This insect closely resembles *S. apicalis*, Clark, but on comparing the type of the latter in the British Museum with the present insect, I find several distinctive characters:—in *S. sallæi* the antennæ are much longer; the apices of the elytra are produced into a point and not rounded; and the thorax apparently never has a central dark spot or band, the latter being placed (when present) at the sides.

6. **Schematiza apicalis.**

Schematiza apicalis, Clark, Trans. Ent. Soc. 1864, p. 268 [1].

Hab. PANAMA, Volcan de Chiriqui (*Champion*).—COLOMBIA [1]; PERU (*coll. Jacoby*).

The differences, if any, between the specimens obtained by Mr. Champion and the type of Clark (which I have examined) are too slight to regard them as anything else but local. In *S. apicalis* the apices of the elytra are rounded, and the thorax, instead of having lateral piceous spots, has a central more or less distinct band; the general colour and the apical elytral spots agree with the preceding species, but the spots are less distinct, and extend in all the specimens to the suture. In one or two examples of what is doubtless a variety, traces of longitudinal raised lines on the elytra are visible, and the thorax has three piceous marks.

7. **Schematiza clarki.** (Tab. XXVIII. fig. 11.)

Black, opaque; antennæ dilated in the middle; thorax flavous at the sides; elytra flattened and widened posteriorly, the sides to the middle narrowly flavous.

Var. Elytra obscure fulvous.

Length 2–2¾ lines.

Head black at the vertex, very finely rugose; clypeus testaceous; antennæ black, the third to the eighth joints dilated, the third joint the longest; thorax twice as broad as long, the sides straight, narrowed towards the apex, the posterior margin sinuate at each side, the surface scarcely visibly rugose and finely pubescent, the disc broadly black or dark fuscous, the sides narrowly flavous; elytra widened posteriorly, sculptured like the thorax and of the same colour, with a narrow flavous band (indented in the middle by a projecting point of the ground-colour), which commences at the shoulders and narrowing gradually becomes obsolete below the middle, the apices rounded; underside and legs black.

Hab. PANAMA, David in Chiriqui (*Champion*).

S. clarki differs from *S. antennalis*, Clark, in the elytra being more dilated in shape and wanting the posterior flavous spot, and in the entirely black legs.

8. **Schematiza thoracica.** (Tab. XXVIII. fig. 12.)

Dark fuscous, widened posteriorly; thorax flavous, with two black bands; elytra finely costate, fuscous, the sides at the shoulders narrowly or broadly flavous.

Var. a. The base of the head and the thorax fulvous, the latter with two black spots at the base.

Var. b. Elytra entirely flavous.

Length 2–2½ lines.

Head fuscous, with some more or less distinct small flavous spots at the sides; clypeus flavous; labrum piceous; antennæ dilated from the third to the seventh joints, the third joint scarcely (if at all) longer than the rest; thorax twice as broad as long, all the margins nearly straight, the surface longitudinally depressed at the sides, flavous, finely pubescent, the disc with two narrow or broader longitudinal black bands; scutellum dark fuscous; elytra widened posteriorly, each with three very narrow longitudinal costæ placed at equal distances but not extending to the apex, the surface minutely rugose and finely pubescent, the shoulders occupied by a flavous band of variable width which gradually narrows towards the suture and there becomes obsolete, the apices rounded and but slightly angular.

Hab. MEXICO, Cordova, Toxpam (*Sallé*); GUATEMALA, San Juan in Vera Paz (*Champion*); PANAMA, Peña Blanca (*Champion*).

S. thoracica differs from the species with costate elytra described by Clark in the elytra being different in colour and each having three costæ, and the thorax having two black bands; in some specimens the flavous portion of the elytra extends nearly to the suture anteriorly, in others the shoulders only are narrowly marked with flavous. The antennæ differ in structure from those of *S. clarki*. The varieties do not differ except in colour.

9. **Schematiza suturalis.** (Tab. XXVIII. fig. 13.)

Elongate, slightly widened behind, black; the thorax narrowly fulvous at the sides; elytra very finely punctured, each with three raised longitudinal lines, pale fulvous, the suture narrowly and the apical margins black.

Length 2–2½ lines.

Head black, the clypeus flavous; antennæ with the third to the seventh joints broadly dilated, the four terminal joints more elongate; thorax one half broader than long, all the margins nearly straight, the sides narrowly

fulvous, the middle of the disc with a regular broad black band; elytra rounded at the apices, each with three narrow raised lines (not extending to the base or apex) on the middle of the disc, the sutural and apical margins narrowly black, the rest fulvous; underside and the legs black.

Hab. PANAMA, Volcan de Chiriqui (*Champion*). A single specimen.

The thorax in *S. suturalis* is shorter than in the other species of the genus described here; this character, in connection with the very elongate general shape and the different coloration, will assist in the recognition of the present insect.

DIABROTICA.

Diabrotica, Chevrolat, D'Orbign. Dict. univ. Hist. nat. iv. p. 717 (1843).

Amongst the entire subfamily of Galerucinæ no genus contains so many species as *Diabrotica*; at least two hundred have already been described, and the undescribed forms contained in collections must also be counted by hundreds. Here, perhaps, more than in any other genus of Phytophaga, may be found species which require long series of specimens to settle their specific value; sometimes their characters of distinction are very minute, and it must, in many cases, remain a question of opinion whether certain forms must be looked upon as varieties of one and the same insect or as true species. There are plenty of instances in which certain species cannot be satisfactorily separated until their localities are considered in connection with some slight mark of distinction, requiring often a good many specimens to come to any conclusion at all, and even then it is justifiable to doubt the propriety of describing such closely allied forms as distinct and not rather as local varieties. If this latter plan were, however, adopted, the same difficulties as to where to draw the line would be encountered; nothing remains but to draw attention to those differences, even if slight, between the many species at present considered distinct. The entire New World is the true home of *Diabrotica*, the species abounding in the tropics, but diminishing gradually in point of numbers towards the more northern and southern parts. In Central America many species may be said to swarm in certain localities; they are especially abundant (according to Mr. Champion) at the commencement of the rainy season, and are found upon the fresh growth in new forest-clearings, and on the margins of the coffee and sugar-cane plantations, upon the leaves of the growing maize, &c. I have arranged our species according to the length of the joints of the antennæ and partly by the coloration of the elytra.

Section 1. *Antennæ with the second and third joints short, the third often longer than the second.*

a. *Elytra black or brown, with large fulvous or greenish spots.*

1. **Diabrotica regalis.** (Tab. XXVIII. fig. 18.)

Diabrotica regalis, Baly, Ann. & Mag. Nat. Hist. 3rd ser. iv. p. 270 (1859)[1]; Journ. Linn. Soc., Zool. xix. p. 213 (1885)[2].

Hab. Guatemala (*coll. Baly*); Panama, Volcan de Chiriqui, Bugaba (*Champion*).—Colombia [1] [2], Muzo [2]; Guiana, Cayenne [2].

This is one of the largest species of *Diabrotica*; it is rather variable in coloration, the large elytral spots being as frequently of a pale green as of a fulvous colour, while the narrow spaces dividing the spots vary from black to fulvous; in certain varieties the anterior spots disappear altogether. *D. regalis* has not been received by us from Guatemala, but two specimens in the collection of Mr. Baly are so labelled.

2. **Diabrotica morosa.** (Tab. XXVIII. fig. 19.)

Diabrotica fraterna, Baly, Ann. & Mag. Nat. Hist. 5th ser. iii. p. 79 (1879) [1].

Hab. Guatemala [1] (*coll. Baly*); Panama, Bugaba, Volcan de Chiriqui, Caldera, David, Tolé, San Feliz, Los Remedios (*Champion*).

The name *D. fraterna* having already been used by Mr. Baly for another species of the same genus (*cf.* Ann. & Mag. Nat. Hist. 3rd ser. iv. p. 272), I am obliged to change it. The female of *D. morosa* is very much larger than the male, nearly approaching the preceding species in size, and is of a posteriorly dilated shape. There are no varieties of importance before me; in the male the antennæ are but slightly shorter than the body. *D. alboplagiata*, Jac., is exceedingly closely allied to this; it is probably only a variety of the present species, but differs in the femora being entirely flavous in colour.

3. **Diabrotica panamensis.**

Fulvous; head, the intermediate joints of the antennæ, the breast, the tibiæ and tarsi, black; elytra obsoletely punctured, black, each with three yellowish rounded spots placed one below the other.

Length 3 lines.

Head impunctate, with a distinct fovea, entirely black; antennæ more than half the length of the body, the third joint one half longer than the second, the basal joint fulvous, the two following ones fulvous beneath only, the intermediate joints fuscous or black, the three apical ones flavous, the extreme apex of the terminal joint black; thorax subquadrate, with two shallow foveæ below the middle, the disc impunctate, flavous, shining; scutellum black; elytra slightly dilated posteriorly, finely and irregularly punctured, black, each with a round spot below the base, a larger one immediately below the middle, and a small one at the extreme apex, yellowish-white.

Hab. Panama, Volcan de Chiriqui (*Champion*).

The number and position of the elytral spots separates *D. panamensis* from the preceding species. It is also allied to *D. deyrollei*, Baly, but differs in the shape of the spots and in the colour of the legs.

4. **Diabrotica pygidialis.** (Tab. XXIX. fig. 1, ♂.)

Fulvous; head and the intermediate joints of the antennæ piceous; thorax bifoveolate; elytra distinctly punctured, black or piceous, a transverse spot before, another below the middle, and the apices, flavous.

♂. Antennæ slightly longer than the body, the second and third joints very short.

♀. Antennæ shorter than the body, the third joint one half longer than the second.

Length 2 lines.

Head impunctate; antennæ piceous, the three apical joints yellowish-white, the apex of the terminal one piceous; thorax impunctate, with two distinct foveæ; scutellum flavous; elytra somewhat rugosely punctured, the flavous bands transverse and not quite extending to either margin; pygidium black.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

Separated from *D. morosa* and other species of this section by the long antennæ, which extend beyond the apices of the elytra in the male, the entirely flavous underside, the black pygidium, and the transversely shaped elytral spots or bands.

5. **Diabrotica fenestralis.** (Tab. XXVIII. fig. 20.)

Diabrotica fenestralis, Jacoby, P. Z. S. 1879, p. 791 [1].

Hab. NICARAGUA, Chontales [1] (*Belt*); COSTA RICA [1], Volcan de Irazu (*Rogers*).

A comparison of this insect with *D. morosa* seems to leave but little doubt that it must be looked upon as a variety of the latter in which the elytral black bands surrounding the flavous spots are reduced in width or interrupted, the shape and position of the bands being exactly similar. As I have three specimens, however, before me agreeing with each other, and the localities of *D. fenestralis* are also different (though from an intermediate region and apparently connecting) from those in which *D. morosa* was obtained, it is perhaps better to retain the two insects as distinct for the present.

6. **Diabrotica elegantula.** (Tab. XXVIII. fig. 21.)

Diabrotica elegantula, Baly, Journ. Linn. Soc., Zool. xix. p. 213 (1885) [1].

Hab. PANAMA, Bugaba, Volcan de Chiriqui, David, Tolé, San Lorenzo, San Feliz (*Champion*).—COLOMBIA, R. Magdalena, Muzo, San Carlos [1].

This seems to be rather a variable species. Amongst the large number of specimens before me, there are only a few which agree very nearly with Mr. Baly's type; the others have the narrow transverse median band of the elytra replaced by a broad round flavous spot, though the other characters are as in the typical form; one of these latter is figured here. I may add that, in all the specimens before me, the third joint of the antennæ is nearly twice as long as the second; Mr. Baly gives the size as "slightly longer."

7. **Diabrotica gratiosa.** (Tab. XXVIII. fig. 22.)

Diabrotica gratiosa, Baly, Journ. Linn. Soc., Zool. xix. p. 215 (1885) [1].

Hab. MEXICO, Cordova (*Sallé* [1]); PANAMA, Volcan de Chiriqui, Bugaba (*Champion*). —COLOMBIA [1], San Carlos [1].

At first sight *D. gratiosa* seems but to represent a variety of *D. elegantula*; several constant differences seem, however, to pronounce the insect a distinct one. In *D. gratiosa* the metallic green portion of the elytra is not connected at the sides as in *D. elegantula*, where it forms a straight line, and the anterior band which includes the

round flavous spot is always indented or emarginate below the shoulder; the antennæ have the second and third joints nearly equal in length, thus differing from *D. elegantula*, the latter having the third joint distinctly longer than the second. The present insect greatly resembles certain forms of *D. adelpha*, Harold, but may be separated from that species by the nearly straight (not curved) posterior elytral band, this latter in *D. adelpha* assuming a semilunate shape. The specimens from Cordova agree with those from the State of Panama, except in the want of the thoracic foveæ, and in the rather narrower band of the elytra; it is therefore possible that the Mexican insect represents a closely allied but distinct species.

8. **Diabrotica duvivieri.**

Diabrotica duvivieri, Baly, Trans. Ent. Soc. Lond. 1886, p. 445 [1].

Var. *a*. Elytra yellow, narrowly margined with black.
Var. *b*. Thorax yellow, the elytra as in var. *a*, the legs black.

Hab. MEXICO, Teapa [1], Playa Vicente (*Sallé*).

Mr. Baly's description of this species was drawn from a single specimen from Teapa, and I have not much doubt that the examples before me from Playa Vicente should be referred to the same insect; only one of the latter, however, agrees perfectly with the author's description, the others having an extra small yellow spot near the lateral margin of the elytra at the base. The varieties do not differ except in colour; in several specimens, as in the type, there is an indication of the flavous elytral spots, caused by the shape of the black margins, which seem only inclined to unite at those places where they are joined in the typical forms, thus indicating the elytral pattern of the latter. This variety cannot be mistaken for *D. limbella*, Baly, which is similarly coloured, on account of the foveolate thorax, the latter in *D. limbella* being without impressions.

9. **Diabrotica tessellata.** (Tab. XXIX. figg. 3, 4.)

Flavous, the head, the intermediate joints of the antennæ, the breast, tibiæ, and tarsi black; thorax without foveæ; elytra closely and finely punctured, the suture anteriorly, a spot at the shoulder, and two narrow transverse bands at and below the middle, black.
Var. The anterior portion of the elytra entirely black.
Length $2\frac{1}{2}$–4 lines.

Hab. PANAMA, Bugaba, Volcan de Chiriqui, David (*Champion*).

D. tessellata may possibly be a variety of *D. morosa*; but as the eight specimens before me all differ from that species in the same way, I must regard *D. tessellata* as specifically distinct. The antennæ are identical in coloration with those of *D. morosa*, having the two penultimate joints flavous and the terminal one black. The elytra have the extreme lateral margins and the apices broadly flavous in all the specimens; but the transverse bands vary in width and the middle one is sometimes connected at the sides with the spots on the basal margin: the figures will, however, give a better idea of their

pattern than the description. In a single small specimen, probably a male, the suture is entirely black to the apex, the pattern of the elytra therefore closely resembling that of *D. morosa*, from which, however, the flavous femora will distinguish it. The thorax is without impressions; and the antennæ in the male are distinctly longer than in any of the preceding species, extending nearly to the apex of the elytra.

b. *Elytra flavous, with transverse black or blue bands.*

10. **Diabrotica paradoxa.** (Tab. XXIX. fig. 13.)

Fulvous, the head, tibiæ, tarsi, and breast black; thorax with two small impressions; elytra testaceous, a narrow transverse band at the base, another at the middle, and a large subquadrate or oval spot on each near the apex, black.

Length 3 lines.

Head, labrum, and palpi black, the space between the antennæ rather deeply foveolate; antennæ half the length of the body, the second and third joints short and equal, the basal joints more or less fulvous, the following joints piceous or black, the last three testaceous, with the apex of the terminal joint fuscous; thorax subquadrate (shaped as in *D. tessellata*), impunctate, the surface impressed on each side with a small (more or less distinct) fovea; scutellum fulvous or piceous; elytra very finely punctured, with a more or less distinct longitudinal depression below the shoulders, the two anterior black bands rather closely placed, the posterior margin of the basal band irregularly notched and sometimes confluent at the sides with the second band, the space between these bands and the large apical spot broader than that between the two anterior bands; femora and abdomen fulvous, the tibiæ and tarsi black.

Hab. BRITISH HONDURAS, R. Hondo (*Blancaneaux*); GUATEMALA, Teleman, Chacoj, and Panima in Vera Paz (*Champion*), Yzabal (*Sallé*).

The two bands of the elytra in this species are of rather regular shape and very slightly curved, but neither they nor the large apical spot extend quite to the lateral or posterior margins; the black (not blue) colour of these markings, in connection with the black tibiæ, will separate *D. paradoxa* from any of the preceding species and their varieties. An example from Chacoj is figured.

11. **Diabrotica albo-signata.** (Tab. XXIX. fig. 14.)

Diabrotica albosignata, Baly, Trans. Ent. Soc. Lond. 1886, p. 453[1].

Hab. GUATEMALA[1], Cubilguitz, Coban, San Joaquin, Purula, Sinanja, Chacoj (*Champion*); NICARAGUA, Granada (*Sallé*).

D. albo-signata is separated from *D. paradoxa* by the equally divided elytral black bands, and by the black apices of the elytra forming a small triangular spot: in none of the specimens I have for examination does the posterior or last elytral black band assume the shape of an oval or square spot, but the two anterior bands are sometimes (as is occasionally the case in *D. paradoxa*) more or less connected, and the legs are occasionally entirely black; in other respects there is no difference in the two insects. As both were obtained partly in the same localities, it is doubtful whether they represent distinct forms or varieties of one only. The Nicaraguan example is figured.

12. **Diabrotica championi.**

Flavous, the head and breast black; thorax without impressions; elytra closely punctured, with three transverse black bands, the third band slightly concave on its posterior margin.

Length 3 lines.

Head impunctate, with a fovea between the eyes; antennæ two thirds the length of the body, fulvous, the third joint one half longer than the second; thorax one half broader than long, flavous, without foveæ; scutellum black; elytra closely punctured, with a narrow transverse black band at the base and another immediately in front of the middle, and a third behind the middle, the latter slightly curved; legs fulvous or flavous.

Hab. NICARAGUA, Chontales (*Janson*); PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).

Closely allied to *D. paradoxa* and *D. albo-signata*, but differing in the non-impressed thorax, the entirely fulvous antennæ and legs, and in the shape of the posterior band of the elytra (this band has its posterior margin concave, not rounded); the bands of the elytra extend to the sutural (but not to the lateral) margin and have a very slight violaceous tint, and the flavous space between the two anterior bands is slightly narrower than the space dividing the second and third bands, the third band being wider than the two others. In one specimen from Chiriqui the basal band is on each side divided into two subquadrate spots, the inner one of which is connected at the suture with the second band, so as to include a ⊥-shaped flavous space; the single specimen from Nicaragua agrees with the others.

13. **Diabrotica viridi-fasciata.** (Tab. XXIX. fig. 15.)

Fulvous, the head and the breast black; thorax obsoletely tri-foveolate; elytra testaceous, with three transverse, slightly curved, metallic blue bands placed at equal distances one from another.

Length $2\frac{3}{4}$ lines.

Head impunctate; antennæ slender, flavous, the eighth joint slightly darker, the third joint one half longer than the second; thorax quadrate, impunctate, shining, with a small basal and two longitudinal depressions; elytra finely punctured, with a longitudinal depression below the shoulders.

Hab. COSTA RICA, Cache (*Rogers*); PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).

In this species the three elytral bands, of which the one at the base is rather narrower than the others, do not extend to the extreme lateral margin, but are more or less connected at the suture; the apices of the elytra being broadly flavous. *D. viridi-fasciata* differs from the two preceding species by the impressed thorax, and by the bands of the elytra being metallic blue in colour and separated by spaces of equal width. A specimen from Cache is figured.

14. **Diabrotica signifera.** (Tab. XXXI. fig. 3.)

Flavous, the head, the intermediate and apical joints of the antennæ, the tibiæ, tarsi, and breast black; thorax with two obsolete depressions; elytra finely punctured, with three narrow transverse black bands, the first band deeply indented.

Length 2 lines.

Head impunctate; antennæ as long as the body, the second and third joints very minute, the sixth to the

eighth and the apical one black; thorax flavous, impunctate, the disc obsoletely flattened; elytra very finely punctured, the first band consisting of two subtriangular spots which are united at the middle, the second and third bands not quite extending to either margin, the posterior edge of the terminal fascia rather strongly concave.

Hab. BRITISH HONDURAS, R. Hondo, R. Sarstoon (*Blancaneaux*); GUATEMALA, San Gerónimo, Tocoy, El Jicaro (*Champion*); NICARAGUA, Granada (*Sallé*), Chontales (*Janson*); PANAMA, Bugaba, Volcan de Chiriqui, David, Caldera, Tolé (*Champion*).

D. signifera, although closely allied to *D. albo-signata* and *D. paradoxa*, differs in the extremely short second and third joints of the antennæ, these joints being moniliform in shape in the male; and in the differently shaped elytral bands, the basal one being often interrupted by a flavous triangular spot of variable size at the middle, this spot dividing the band itself into two black triangular markings which only touch in the centre; in one or two examples the anterior band is replaced by isolated spots, and in some others from British Honduras the black bands are greatly widened, thus reducing the pale intervals of the ground-colour to very narrow spaces. The pygidium in all the specimens is black. *D. albo-signata* differs further by the black apices of the elytra and larger general size. Many specimens.

15. **Diabrotica dorso-vittata.**

Testaceous, the antennæ (the basal joint excepted), tibiæ, and tarsi black; thorax with a discoidal depression; elytra minutely punctured, with a transverse band before and another below the middle, and the extreme apices, black.

Length 2 lines.

Head testaceous or fulvous, the frontal tubercles very obsolete; antennæ two thirds the length of the body, black, the basal joint sometimes fulvous, the second and third joints equal and together shorter than the fourth joint; thorax one half broader than long, entirely impunctate, the disc shallowly depressed; elytra parallel, very minutely punctured, each with two transverse black bands (the first a little below the base, nearly straight, the second some distance below the middle, rather broader, and slightly curved at its posterior margin), the extreme apices also black.

Hab. GUATEMALA, Panzos, Teleman, Chacoj, and San Juan in Vera Paz (*Champion*).

D. dorso-vittata may be at once known amongst its allies by the elytra having only two (instead of three) bands, and also by the position of these latter; as well as by the uniform colour of the head, thorax, and underside, the breast not being black in this insect. In some specimens the anterior elytral band is much broader, extending upwards towards the base and connected at the sides with the second band; other differences I am not able to find.

16. **Diabrotica bipartita.**

Fulvous, the head black; thorax bifoveolate; elytra with the anterior half and a broad band below the middle black.

Length 2 lines.

Head black, impunctate; antennæ nearly as long as the body, the second and third joints very small, the fourth longer than the preceding three together, the three or four intermediate joints and the apical one black, the others pale flavous; thorax one half broader than long, the disc with two foveæ, impunctate; elytra

closely punctured, slightly rugose, the anterior portion to the middle, and a broad transverse band beyond, black (the black anterior portion divided from the transverse band by a narrow straight yellowish-white band), a round white spot close to (but not quite reaching) the apex of each, the apex itself black; underside and femora fulvous.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

The elytra in this species might be equally well described as black, with a narrow central whitish band and similarly coloured apices. Two specimens only were obtained.

17. **Diabrotica regularis.**

Testaceous, the apical joints of the antennæ and the femora pale greenish-testaceous, the head black; thorax obsoletely depressed; elytra rather strongly punctured, testaceous, a broad transverse band at the base and a narrow one below the middle, black.

Length 2–2½ lines.

Head impunctate, the vertex foveolate; palpi fulvous; antennæ half the length of the body, fulvous, the three terminal joints very pale yellowish-green, the second and third joints short, equal; thorax one half broader than long, impunctate, flavous, the disc with two obsolete depressions; scutellum black; elytra slightly widened posteriorly, longitudinally grooved on each side, closely and very distinctly punctured, with a transverse black band (not quite touching the lateral margins, and with its posterior edge very uneven or dentate) extending from the base nearly to the middle, and another narrower black band placed at a little distance below the middle; the breast black, the abdomen and femora pale greenish, the tibiæ fulvous.

Hab. PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).

D. regularis differs from *D. bipartita* in the colour of the antennæ and legs, the more irregular shape of the elytral bands, the fulvous apices of the elytra, and in the less parallel and more widened general shape.

18. **Diabrotica rogersi.** (Tab. XXVIII. figg. 24, 25.)

Testaceous, the head, the intermediate joints of the antennæ, the breast, and the tibiæ and tarsi black; thorax fulvous, bifoveolate; elytra fulvous, the apices lighter, a broad transverse band at the base and a narrow curved transverse mark below the middle, dark metallic blue.

Var. Elytra metallic blue, a spot below the middle and the apices fulvous.

Length 4 lines.

Head with a distinct fovea between the eyes; antennæ two thirds the length of the body, the third joint one half longer than the second, the three lower joints fulvous, the following five black, the others pale testaceous, the extreme apex of the terminal joint fuscous; thorax dark fulvous, with two more or less distinct foveæ; scutellum piceous; elytra extremely finely and not very closely punctured.

Hab. COSTA RICA, Rio Sucio (*Rogers*).

D. rogersi differs from both *D. elegantula* and *D. gratiosa* in its larger size, and in the much more finely punctured elytra; the markings of the latter also being different —the broad dark blue anterior band extending nearly to the middle but without touching the lateral margins, the sides of this band not notched but forming a perfectly straight line; the space between the anterior and posterior blue marks of a darker fulvous than the apices, the latter being pale testaceous; and the second narrow trans-

verse band is slightly curved and does not extend to either margin. The four specimens, with the exception of the variety in which the two bands are joined at the sides and are rather broader than in the type, agreeing with each other in the above particulars, I am obliged to treat them as specifically distinct.

19. **Diabrotica godmani.**

Fulvous, the head and breast black; elytra finely punctured, a broad transverse band at the base, and a narrower slightly curved one below the middle, metallic blue.

♂. Thorax with two or three obsolete depressions, the antennæ two thirds the length of the body.

♀. Thorax without depressions, the elytra more widened behind, the antennæ shorter.

Length $2\frac{1}{2}$–$3\frac{1}{2}$ lines.

Hab. PANAMA, Bugaba, Volcan de Chiriqui, Tolé (*Champion*).

After a careful examination of nearly one hundred specimens I can only come to the conclusion that *D. godmani* represents a distinct species, although it is undoubtedly very closely allied to *D. pulchella*, Jacq.-Duv., and *D. lucifera*, Erichs. In the Panama insect the antennæ are entirely fulvous; in the two last-named species the intermediate and apical joints are dark, and the posterior spot of the elytra is broad and oval and also placed further back than in *D. godmani* (the corresponding band in our insect being always slightly curved, and its posterior margin concave); in general shape also *D. godmani* is more elongate and parallel, at least in the male. The specimens I look upon as the female of the same species agree perfectly with the others in the markings of the elytra, but differ in the thorax being without impressions, the antennæ shorter, and the elytra more widened behind. The foveolate or non-foveolate thorax is generally considered to indicate different species, and which in most cases no doubt holds good, but I think it cannot always be relied upon unless taken in connection with other marks of distinction. I may further add that *D. lucifera*, if I rightly refer specimens from Peru contained in my collection to Erichson's species, has much more strongly punctured elytra and black tibiæ. *D. inæqualis* and *D. haroldi*, Baly, have the tibiæ and tarsi also black.

20. **Diabrotica pulchella.** (Tab. XXIX. fig. 11.)

Phyllobrotica pulchella, Jacq.-Duv., in Sagra's Hist. fisica, polit. y nat. de Cuba, vii. p. 127, t. 11. fig. 8[1]; Dej. Cat. 3rd ed. p. 406[2].

Diabrotica pulchella, Suffr. Archiv für Naturg. 1867, i. p. 308[3].

Hab. MEXICO, Minas Viejas (*Dr. Palmer*), Cosamaloapam, Teapa, Tuxtla, Cordova (*Sallé*), Jalapa, San Juan Bautista, Oaxaca (*Höge*); BRITISH HONDURAS, R. Sarstoon, R. Hondo (*Blancaneaux*); GUATEMALA, Teleman (*Champion*); NICARAGUA (*Sallé*), Chontales (*Janson, Belt*).—CUBA [1 2 3] (*coll. Jacoby*).

D. pulchella has been well described by Jacquelin-Duval and Suffrian; the Central-American specimens before me show no important difference from those from Cuba. The species may be known by the elytra having a large transverse blue band at the

base and a similarly-coloured round or oval spot behind the middle; many specimens have a small yellow spot placed in the middle of the basal band; and some vary in such a way that one might feel inclined to regard *D. pulchella* as a variety of *D. biannularis* in which the rings of the elytra have been filled up. This insect is not uncommon at Chontales. We figure a specimen from Cordova.

c. *Elytra flavous, with fulvous bands and spots.*

21. **Diabrotica octo-plagiata.** (Tab. XXX. fig. 17.)

Flavous, the breast obscure piceous; thorax bifoveolate; elytra closely punctured, flavous, two spots at the base, a transverse band at the middle, and another deeply sinuate one near the apex, dark fulvous.

Length $2\frac{3}{4}$ lines.

Head impunctate, the frontal tubercles strongly raised; labrum piceous; palpi flavous; antennæ two thirds the length of the body in the male, shorter in the female, flavous, the third joint scarcely longer than the second, the fourth not or scarcely longer than the fifth joint; thorax subquadrate, flavous, the disc with two deep depressions, impunctate; elytra longitudinally grooved on each side below the shoulders (more distinctly so in the male than in the female), with a longitudinal spot at the shoulder, another near the scutellum, a perfectly straight transverse band at the middle, and a similar band (deeply sinuate on its posterior margin) near the apex of each, dark fulvous; legs flavous.

Hab. GUATEMALA (*Sallé*); NICARAGUA, Chontales (*Janson*).

In this insect neither the spots nor the bands touch the margins of the elytra; the female is of more convex shape and rather larger than the male, and has the punctuation of the elytra not so distinct. I have seen but two specimens of this species, which is very distinct by the colour of the bands and the pattern of the elytra. The Guatemalan example is figured.

d. *Elytra flavous, with black or blue more or less ring-shaped anterior and posterior markings.*

22. **Diabrotica adelpha.** (Tab. XXIX. fig. 8.)

Diabrotica adelpha, Harold, Coleopt. Hefte, xiii. p. 92 (1875) [1].

Hab. GUATEMALA [1], near the city, Capetillo, Dueñas, Zapote, Cerro Zunil (*Champion*), Yzabal (*Sallé*); NICARAGUA, Chontales (*Janson*); COSTA RICA (*Van Patten*), Irazu, Rio Sucio, Volcan de Irazu (*Rogers*); PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).

This and several of the following species are extremely closely allied, their characters of distinction being slight and variable. *D. adelpha* may be separated by the smooth, not foveolate, thorax; and by the anterior ring-shaped elytral mark, the posterior margin of which is produced laterally into a short band, which, however, does not extend to the lateral margin: this pattern resembles exactly that of *D. gratiosa*, but in that species the posterior mark of the elytra is not ring-shaped, but nearly straight or very slightly curved. Von Harold speaks of a variety in which the rings of the elytra

are not closed; it is, therefore, probable that he had several species before him which he regarded as varieties only. The colour of the legs in all the specimens before me is flavous. In regard to the anterior marks of the elytra, the species seems to be subject to great variation. I am not able to satisfactorily separate the numerous specimens from Chiriqui, some of which agree with the type, while others have the anterior ring or the subquadrate mark broken up into spots; these forms seem at first sight to represent distinct species, but the many intermediate degrees where the black marks are partly connected leave no choice but to treat all as belonging to one variable insect. A specimen from Yzabal is figured.

23. **Diabrotica tibialis.** (Tab. XXIX. fig. 9.)

Flavous, the head, breast, and tibiæ black; thorax without foveæ, dark rufous; elytra very closely and distinctly punctured, a ring-shaped mark at the base connected with a short transverse band, and another slightly curved posterior band, piceous or black.

Length 3 lines.

Hab. MEXICO, Colima city, Jalapa (*Höge*), Presidio (*Forrer*).

The fourteen specimens before me all showing the same marks of distinction, I am obliged to separate them from *D. adelpha*. to which the present species is closely allied; the differences are as follows:—In *D. tibialis* the thorax is constantly dark reddish-fulvous (not flavous); the anterior ring-shaped mark on the elytra is similar to that of *D. adelpha*, but the posterior band represents a straight line near the suture, which it touches, and the outer end of this band is only slightly curved (never assuming a semilunate shape as in *D. adelpha*); and, lastly, the tibiæ are black. The antennæ are of the same structure and colour as in *D. adelpha*. A single specimen from Presidio is only half the size, but differs in no other way from the Jalapa specimens.

24. **Diabrotica brunneo-signata.**

Testaceous, the head fulvous, the breast and tibiæ obscure piceous; thorax with two small depressions; elytra with a transverse band at the base and another at the middle, and an angular spot (widened at the sides) near the apex, fulvous.

Length 2 lines.

Head reddish-fulvous at the vertex, nearly black at the lower portion; antennæ two thirds the length of the body, the third joint very short and not longer than the second and of triangular shape, the fourth slightly curved, the following joints rather elongate and robust, obscure piceous, the three basal joints testaceous; thorax one half broader than long, the surface rather convex, impunctate, with a very small fovea on each side, pale fulvous; scutellum fulvous; elytra finely punctured, testaceous, with three transverse fulvous bands (the basal one narrow, the other two triangularly widened at the sides but not quite extending to the lateral margin), the anterior portion of the suture also narrowly fulvous.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

A single specimen. This species strongly resembles *D. tibialis* in the pattern of the elytra; it differs from that insect, however, in being only about half the size; in the

very short and triangular-shaped third joint of the antennæ; in the differently shaped elytral bands, these bands being greatly constricted near the suture but strongly widened at the sides; and in the angular third band not quite extending to the suture.

25. **Diabrotica circulata.** (Tab. XXIX. fig. 5.)

Diabrotica circulata, Harold, Coleopt. Hefte, xiii. p. 91 (1875) [1].

Hab. MEXICO, Tuxtla (*Sallé*); GUATEMALA [1], Pantaleon, Zapote, Dueñas, Capetillo, San Gerónimo, Purula, San Joaquin, Chacoj (*Champion*).—COLOMBIA (*coll. Baly*).

This species seems to be so extremely variable in the markings of the elytra that I find it quite impossible to fix any limit or come to any certain conclusion regarding it. Von Harold has given only short diagnoses of *D. biannularis* and *D. circulata*; the last-named he separates by the bifoveolate thorax, the more oblong shape of the bluish elytral rings, and the more strongly punctured elytral surface. All these characters seem to lose their value amongst the large amount of material now before me, in which specimens from one and the same locality vary in having either an obscurely depressed, bifoveolate, or trifoveolate thorax, and the antennæ unicolorous fulvous, or with the intermediate joints darkened; and in regard to the elytral ring-shaped markings, the same amount of variation may be seen, the rings being either narrow or broad, open or closed, and it would be easy to make half a dozen new species (?) on these variable characters. I will, however, refer at present the Guatemalan specimens with thick and strongly-marked blue rings, of which the posterior one is rather angular and open, to *D. circulata.* We figure an example of this kind from Pantaleon.

26. **Diabrotica biannularis.** (Tab. XXIX. fig. 7.)

Diabrotica biannularis, Harold, Coleopt. Hefte, xiii. p. 91 (1875) [1]; Klug, Dej. Cat. 3rd ed. p. 404 [2].
Diabrotica oculata, Sturm, in litt.

Hab. MEXICO [1 2], Vera Cruz, Toxpam, Cordova, Tuxtla (*Sallé*), Jalapa, Tapachula in Chiapas (*Höge*); BRITISH HONDURAS, R. Sarstoon (*Blancaneaux*); HONDURAS (*Sallé*).

D. biannularis resembles greatly in the elytral pattern certain forms of *D. nummularis*, but differs in the flavous or pale fulvous thorax, this latter being less convex, and having three more or less distinct foveæ. The antennæ have the intermediate joints, and often the apical one also, fuscous, and are altogether more slender and elongate. The colour of the head seems, however, subject to variation, and the ring-shaped marks of the elytra are as often closed as open. An example from Vera Cruz is figured.

27. **Diabrotica nummularis.** (Tab. XXIX. fig. 6.)

Diabrotica nummularis, Harold, Mittheil. Münch. ent. Ver. p. 110 (1877) [1].

Hab. Mexico [1], Ventanas, Milpas (*Forrer*), Juquila, Yolotepec, Cuernavaca, Cordova, Vera Cruz (*Sallé*), Jalapa, Chilpancingo, Colima city, Acapulco, Tapachula (*Höge*); Costa Rica (*Van Patten*), Cache (*Rogers*); Panama, Bugaba, Volcan de Chiriqui (*Champion*).

It is not easy to come to a definite opinion in regard to this species and several of its closely-allied congeners; and after a great deal of careful examination I can only form the conclusion that at least two forms of *D. nummularis* must be distinguished, if indeed all the specimens before me are to be referred to that species. In the typical form the antennæ and legs are entirely fulvous, the head is black, and the elytra have a broad metallic blue ring at the base and an equally broad semilunate band below the middle; in the second form the elytral markings (although similar in shape) are much thinner and the head is either entirely or partially fulvous, but specimens with a black head also occur. In all, the thorax is of a reddish-fulvous colour, rather convex, and with two small foveæ. It is impossible to separate the two forms on account of the many intermediate degrees of colour and elytral pattern; but the constant characters peculiar to *D. nummularis* seem to be the entirely fulvous antennæ and legs, in connection with the reddish, convex, and finely bifoveolate thorax. Some examples exactly resemble in the closed elytral rings *D. biannularis*; but as the colour of the antennæ and the shape of the thorax agree with *D. nummularis* I look upon them as varieties of that species. The specimen figured, from Ventanas, belongs to the form with thin elytral pattern.

28. **Diabrotica delineata.** (Tab. XXIX. fig. 10.)

Pale testaceous, the breast and the sixth, seventh, and eighth joints of the antennæ black; thorax bifoveolate; elytra closely and distinctly punctured, a thin ring-shaped mark at the base and another half-ring below the middle, violaceous-blue.

Length 3 lines.

Hab. Mexico, Cordova, Tuxtla (*Sallé*), Jalapa (*Höge*); British Honduras, R. Hondo (*Blancaneaux*); Guatemala, Volcan de Atitlan (*Champion*).

I separate *D. delineata* from *D. biannularis* on account of the flavous head, the colour of the antennæ (in which the sixth to the eighth joints only are black), and the generally paler colour. The elytra are more opaque, closely punctured, and with traces of longitudinal depressions; the ring-shaped marks are very thin, the posterior one being open behind and forming an angulate half-crescent. As these differences are constant in the nine specimens before me I must look upon them as of specific value. We figure an example from Cordova.

29. **Diabrotica chontalensis.**

Fulvous, the head and breast black; the second and third joints of the antennæ very short, equal; thorax subquadrate, impunctate, without foveæ; elytra finely punctured, a ring-shaped mark at the base, and a semilunate one below the middle, metallic blue.

Length 3 lines.

Hab. NICARAGUA, Chontales (*Janson*).

I am obliged to separate this insect, of which only a single example was obtained, from the many closely-allied forms with similar elytral pattern; from all of which it differs in the very short second and third joints of the antennæ, these joints being of exactly the same length, the reverse being the case in the allied species. The antennæ are entirely dark fulvous (the basal joints somewhat lighter) and are nearly as long as the body. The elytral markings are similar to those of *D. circulata*, but the thorax has no foveæ and is nearly quadrate in shape; the punctuation of the elytra is arranged in closely approached irregular lines.

e. *Elytra partly (the thorax entirely) green.*

30. **Diabrotica viridicollis.** (Tab. XXIX. fig. 2, var.; Tab. XXX. fig. 9.)

Pale greenish, the head, the antennæ partly, and the tibiæ and tarsi obscure fulvous; thorax green, scarcely foveolate; elytra fulvous, the sides dark green, the suture and a lateral stripe anteriorly, and a transverse band near and another below the middle, piceous.

Length 3–4 lines.

Head dark fulvous or obscure piceous, foveolate between the eyes; antennæ two thirds the length of the body, of variable colour, the second joint very short, the third one half longer, the basal joint generally pale green, the following joints obscure fulvous or fuscous, the two or three apical ones flavous; thorax subquadrate, dark green, shining, without impressions or with a minute fovea on each side, the surface impunctate; scutellum black; elytra closely punctured, with a longitudinal depression below the shoulder, pale fulvous, the sides with a narrow longitudinal green band extending to the apical margins, this colour being bounded anteriorly by a piceous stripe extending to the anterior transverse band which it joins, the basal and sutural margins also piceous in colour, a similarly-coloured band below the middle, extending as far as the lateral green band; femora and the abdomen green, the breast obscure piceous.

Hab. MEXICO, Oaxaca (*Sallé*), Tapachula in Chiapas (*Höge*); NICARAGUA, Chontales (*Janson, Belt*); PANAMA, Bugaba (*Champion*).

In some examples the elytra are more shining, and have the markings similar to those of *D. biannularis* and *D. adelpha*, and the abdomen flavous instead of green; I believe these specimens, however, to be only a variety, as all other characters are present. *D. viridicollis* may be known from its allies by the colour of the thorax and elytra. From *D. sex-maculata* it differs in the colour of the antennæ; and in the shape of the flavous spots of the elytra, these spots being rounder and divided by black bands, and the lateral margins only of a green colour; the terminal spots occupy the entire apices of the elytra. We figure two examples: one from Chontales (Tab. XXX. fig. 9) and another, a variety, from Bugaba (Tab. XXIX. fig. 2).

f. *Elytra black or blue, with flavous markings of variable shape.*

31. **Diabrotica militaris.** (Tab. XXVIII. fig. 23.)

Fulvous, the head, the lower joints of the antennæ, and the breast black; thorax deeply impressed; elytra finely punctured, metallic blue, with two small basal spots, a narrow transverse central band, and the apices flavous.

Length 3 lines.

Head with a deep fovea between the antennæ, black; antennæ two thirds the length of the body, the third joint longer than the second but much shorter than the fourth, the first joint more or less fulvous, the seven following joints black or piceous, the rest flavous, the extreme apex of the terminal joint piceous; thorax subquadrate, impunctate, the disc strongly depressed and with two more or less distinct foveæ; scutellum piceous; elytra scarcely widened behind, finely and closely punctured, with an obsolete longitudinal sulcation below the shoulder, dark metallic blue, the extreme lateral margins, a narrow straight band across the middle, and the apices as well as a small spot below the base of each, flavous; the breast black, the abdomen and the legs entirely fulvous or flavous.

Hab. GUATEMALA, Panima, Chacoj and San Juan in Vera Paz (*Champion*).

The flavous apex of each elytron may be described as of the shape of a more or less quadrate spot interrupting the metallic blue colour. The Panima example is figured.

32. **Diabrotica quadricollis.** (Tab. XXX. fig. 20.)

Fulvous, the head, breast, tibiæ, and tarsi black; thorax quadrate, without foveæ; elytra black, a small spot below the base, a transverse spot in the centre, the suture in the middle, and a subquadrate space at the apices flavous.

Length $3\frac{3}{4}$ lines.

Head black, with a deep fovea on the vertex, the carina very acute and distinct; antennæ more than two thirds the length of the body, the second and third joints very small, the three lower joints flavous, the five following ones black, the ninth and tenth joints flavous, the terminal one black; thorax perfectly quadrate, fulvous, with a slight bluish tint, the surface not visibly punctured, without depressions, and rather flat; scutellum black; elytra finely and closely punctured, with a longitudinal depression at the sides, black, a subquadrate space at the apices, a small spot below the base, a transverse spot in the centre, a lozenge-shaped spot in the middle of the suture, and the extreme lateral margins, flavous.

Hab. GUATEMALA, Cubilguitz in Vera Paz 1000 feet (*Champion*).

I cannot refer the single specimen obtained to a variety of any of the preceding species, on account of the quadrate thorax in connection with the black colour of the elytra; the spots on the latter are placed somewhat as in *D. militaris*, in which, however, the elytra are of a blue colour and the flavous markings at the apices differently shaped.

33. **Diabrotica tripunctata.** (Tab. XXIX. fig. 24.)

Crioceris tripunctata, Fabr. Syst. Eleuth. i. p. 451 [1].

Galeruca tripunctata, Oliv. Ent. vi. p. 652, t. 4. f. 66 [2].

Hab. NICARAGUA, Chontales (*Janson*).—SOUTH AMERICA [1], Cayenne [2].

The only difference I am able to find between the published descriptions of this species and specimens obtained in Nicaragua is the colour of the elytra: in our insect

it is piceous or dark fulvous, while Olivier gives it as black. Some specimens agree perfectly with the figure in Olivier's work; but there are examples before me in which the elytra have the anterior portion piceous, this colour surrounding a yellow spot at the base, and a narrow transverse band below the middle dark flavous. This variety greatly resembles *D. adelpha* and several other allied species; between this form, however, and normally coloured specimens several intermediate stages are before me, thus proving the species to be, like so many of its congeners, a very variable one. Our figure differs from that given by Olivier [2] in having larger flavous spots on the elytra; but the name *tripunctata* is misleading, as there are only two spots on each elytron, and these spots can scarcely be said to resemble small punctures.

Diabrotica flaviventris. (Tab. XXIX. fig. 20.)

Head and breast black, the basal and apical joints of the antennæ flavous; thorax piceous, without foveæ; elytra closely punctured, fulvous, the anterior half and a transverse band below the middle piceous; tibiæ and abdomen flavous.

Var. Elytra almost entirely piceous, the apices more or less fulvous.

Length 3 lines.

Head impunctate; the second and third joints of the antennæ very short, equal in length, the three lower joints flavous, the five following ones more or less fuscous, the ninth and tenth joints flavous, the apical one fuscous; thorax dark fulvous or piceous, rather convex, the disc without depressions and with a few fine punctures; elytra with a distinct margin, slightly widened behind, closely and distinctly punctured.

Hab. Mexico, Cosamaloapam, Tlacotalpam (*Sallé*), Vera Cruz, San Juan Bautista Acapulco, Tapachula (*Höge*); Guatemala, Panzos, Teleman, Chacoj (*Champion*).

The description is drawn from a single well-marked specimen, in which the elytra have the anterior half nearly black, the rest dark fulvous, with a transverse curved black band below the middle extending to the suture but not to the lateral margin; in all the other specimens the fulvous portion is almost entirely invisible, or only slightly indicated, owing probably to discoloration after death. The femora and the abdomen are flavous, the tibiæ and tarsi black. The specimen figured is of a more fulvous hue than the others, and was at first supposed by me to represent a distinct species. The specimen from Tlacotalpam is figured.

35. Diabrotica fulvo-signata. (Tab. XXIX. fig. 12.)

Diabrotica fulvo-signata, Baly, Ann. & Mag. Nat. Hist. 5th ser. iii. p. 77 (1879) [1].

Hab. Guatemala [1]; Nicaragua, Chontales (*Janson*); Panama, Bugaba (*Champion*).

An example from Bugaba is figured.

36. Diabrotica tricolor. (Tab. XXXI. fig. 16.)

Ovate, slightly widened posteriorly; black, the antennæ obscure fulvous; thorax without foveæ; elytra minutely punctured, the base black, the middle fulvous, the apices flavous; abdomen flavous.

Length 2 lines.

Head impunctate, with the usual fovea; antennæ scarcely more than half the length of the body, fulvous, the basal joint generally black, the third joint about one half longer than the second, the latter very short; thorax subquadrate, the sides nearly straight, the surface impunctate, black, shining; scutellum black; elytra more or less transversely depressed below the base, very minutely punctured, the first third of their length occupied by a transverse black band, the space below the latter to a little distance from the apex dark fulvous, the apices themselves bright flavous; legs and the underside black; abdomen flavous.

Hab. GUATEMALA, Paso Antonio 250 feet (*Champion*).

This is a curiously-coloured insect not difficult to recognize. In some examples the dark basal portion of the elytra assumes a more piceous tint; others have a distinct more or less broad band placed below the base; the basilar portion is somewhat raised in all the specimens.

g. *Elytra flavous, with small black spots.*

37. **Diabrotica duodecim-notata.** (Tab. XXX. fig. 5.)

Diabrotica duodecim-notata, Harold, Coleopt. Hefte, xiii. p. 91 (1875)[1].
Diabrotica disjuncta, Chevr. Dej. Cat. 3rd ed. p. 405[2].
Galeruca sexmaculata, Sturm, in litt.
Diabrotica 12-*signata,* Sturm, in litt.

Hab. MEXICO[1 2], San Pedro, Saltillo, Parras in Coahuila, San Luis Potosi (*Dr. Palmer*), Paso del Norte, Chihuahua city, Saltillo, Villa Lerdo in Durango, Durango city, Tula, Irapuato, San Isidro, Jalapa (*Höge*); Orizaba, Cordova, Oaxaca, Guanajuato, Puebla, Coscomatepec (*Sallé*).

Of the six small black spots or short streaks on each elytron, the one placed near the scutellum is, in all the specimens I have examined, obliquely directed outward—thus forming, with the corresponding spot on the opposite side, a Λ-shaped mark. The antennæ have the first two or three joints rather pale, the rest black; the legs (the bases of the femora excepted) and the underside are more or less black, the abdominal segments, however, being usually margined with testaceous.

I have only seen this species from Mexico, and chiefly from the more northern parts of that country, some of our specimens being from the United States frontier. Several other closely-allied forms are known from different parts of South America. We figure a specimen from Orizaba.

38. **Diabrotica spilota.** (Tab. XXX. fig. 6.)

Diabrotica spilota, Baly, Journ. Linn. Soc., Zool. xix. p. 216 (1886)[1].

Hab. MEXICO[1]; PANAMA (*Boucard*), Bugaba, Volcan de Chiriqui, Peña Blanca (*Champion*).—COLOMBIA[1].

A specimen kindly given to me by Mr. Baly differs from all others obtained by Mr. Champion in the piceous-coloured disc of the thorax, and in having a narrow transverse

fulvous-coloured stripe on the elytra between the second and third rows of spots, and the apices also fulvous. These marks are spoken of by Mr. Baly as being sometimes absent, and as I am unable to find any distinct characters of importance in the Panama specimens, I refer them to the present species; there are, however, varieties before me in which the spots of the elytra are either transversely or longitudinally connected. Mr. Baly [1] gives Mexico as a locality for *D. spilota*; I have never seen a specimen from that country. Other closely-allied forms are found both in North and in South America. *D. spilota* may be known principally by the non-foveolate thorax, in connection with the fulvous legs and antennæ; some specimens, however, before me show that this colour is not always constant; and others have two small foveæ visible on the thorax *D. centralis*, Jac., is extremely closely allied to this insect, but differs in the deeply foveolate thorax, and in having an extra spot at the apices of the elytra.

A Bugaba specimen is figured.

39. **Diabrotica duplicata.** (Tab. XXX. fig. 7.)

Head and breast black, the antennæ, thorax, and legs fulvous; thorax distinctly trifoveolate, impunctate; elytra flavous, each with five black spots (1.2.2), the apices obscure fulvous.

Length $2\frac{1}{2}$–3 lines.

Hab. PANAMA, Bugaba, Volcan de Chiriqui, David (*Champion*).

D. duplicata differs sufficiently from *D. spilota* to justify its separation therefrom. The thorax is much more broadly and distinctly foveolate, sometimes with a small additional fovea at the base; the subquadrate spot surrounding the scutellum in *D. spilota* is here wanting, the elytral suture being at this part extremely narrowly margined with black on its inner edge; the spot at the shoulders is almost always indented on its inner side; the other elytral spots are nearly round (not transverse or elongate), and black instead of blue; and, lastly, the apices of the elytra are stained with pale yellowish-fulvous. The general shape also of the insect is more elongate and much less convex.

There are more than a dozen specimens before me which agree entirely in the above particulars. The elytral spots are placed as in *D. spilota*.

h. *Elytra testaceous, with black or blue short basal stripes and small posterior spots.*

40. **Diabrotica apicicornis.** (Tab. XXX. fig. 1.)

Pale fulvous, the terminal and the intermediate joints of the antennæ, the breast, tibiæ, and tarsi black thorax bifoveolate; elytra testaceous, very closely punctured, a short stripe at the shoulders and another at the suture, and two spots below the middle, black.

Var. The elytra with only one posterior spot; this spot sometimes obsolete.

Length 3–$3\frac{1}{2}$ lines.

Head fulvous, with a small fovea between the antennæ; the latter two thirds the length of the body, the third joint one half longer than the second, the fourth to the eighth joints and the apex of the terminal one

black; thorax impunctate, with two deep depressions; scutellum fulvous; elytra widened posteriorly, extremely closely and finely punctured, testaceous, with a short and narrow stripe at the shoulders, another of similar length (but pointed) at the base surrounding the scutellum and occupying the sutural margin, and two very small obliquely-placed spots on each below the middle, black.

Hab. PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).

This and several of the following species are very closely allied, and seem to be separable only by slight, though evidently constant, differences. *D. dysoni*, Baly, differs in having the head black.

41. **Diabrotica fulvicornis.** (Tab. XXX. fig. 2.)

Head and the breast black, the antennæ and thorax fulvous; thorax obsoletely trifoveolate; elytra testaceous, very closely punctured, an elongate spot at the shoulder, a smaller one surrounding the scutellum, and a still smaller one near the middle as well as two elongate spots beyond, black.

Length 3 lines.

Head impunctate, black, the frontal tubercles distinctly raised; antennæ two thirds the length of the body, entirely fulvous, the second and third joints very short, equal, the fourth slightly longer than the fifth joint; thorax about one half broader than long, the sides slightly constricted at the base, rounded in front, the surface with some fine punctures, more or less distinctly bifoveolate on the middle of the disc, and with another smaller fovea near the base; scutellum fulvous; elytra very closely and finely punctured, the sides with a longitudinal sulcation extending from a little below the shoulders to the middle, a small triangular spot at the base surrounding the scutellum, a more elongate one at the shoulders, a very minute spot between these but lower down and near the middle, and two others of elongate shape below the middle (the outer one slightly lower and in a line with the humeral spot, the inner one below the small spot near the middle), black; abdomen and the legs fulvous, the breast black.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

The short second and third joints of the antennæ, the shape of the scutellar spot (this spot scarcely extending below the scutellum), the finely-punctured thorax, and the generally shorter and somewhat dilated shape separate *D. fulvicornis* from several similarly-marked species.

42. **Diabrotica palpalis.**

Fulvous, the head and breast black; antennæ fulvous; thorax obsoletely depressed; elytra minutely punctured, testaceous, a spot at the shoulders, another one near the middle, two below the middle, and the suture anteriorly, dark blue.

♂. Antennæ with short and robust joints; palpi strongly incrassate.

♀. Antennæ and palpi of normal structure.

Length $3\frac{1}{2}$–4 lines.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

There will be no difficulty in separating the male of *D. palpalis* from the same sex of *D. fulvicornis* and other similarly-coloured species, on account of the strongly dilated palpi and the peculiar structure of the antennæ; these latter organs having the joints stout and proportionately short, the base of each joint being, on the contrary, very thin, and the second and third joints short, equal, and stout. The specimens which I look

upon as the female of the same species do not differ in the pattern of the elytra, but have simple and more elongate palpi and antennæ.

From *D. fulvicornis* the present insect may be known by its larger and more elongate shape; and by the elytra having a narrow sutural anterior line (instead of a triangularly shaped spot), and a small (not elongate) spot at the shoulders, and the posterior spots not elongate (as in *D. fulvicornis*), but rounded.

43. **Diabrotica semicirculata.**

Fulvous, the breast black; thorax depressed on the disc; elytra finely and moderately closely punctured, a humeral and a sutural narrow stripe at the base, a spot below the base, and two spots (diverging posteriorly) below the middle, blue.

Length 2–2½ lines.

Hab. PANAMA, Bugaba, Caldera, Tolé (*Champion*).

This insect must also be separated from *D. fulvicornis*, *D. palpalis*, and others with nearly similar elytral pattern. *D. semicirculata* is smaller than any of the allied forms, and differs in having the head and antennæ fulvous; the antennæ have the third joint one half longer than the second. The blue stripe at the shoulders of the elytra is narrow and elongate and as long as the sutural one; and the two posterior spots, although separated, would, if connected, form a semicircular band, the inner one being transversely and the outer one longitudinally directed. *D. apicicornis* has the antennæ differently coloured, the elytra without a spot near the base, and the tibiæ black. *D. brevilineata* differs in the same way, and also in the different position of the posterior spots, these spots not diverging but running parallel to each other. In *D. semicirculata* the antennæ are shorter than in any of the allied species.

44. **Diabrotica brevilineata.** (Tab. XXX. fig. 3.)

Testaceous, the intermediate joints of the antennæ and the breast black; thorax obsoletely punctured, with two depressions; elytra very closely punctured, a narrow streak at the shoulder, the suture anteriorly, and two small transversely placed spots below the middle, black.

Length 3–3½ lines.

Hab. PANAMA, Bugaba (*Champion*).

D. brevilineata differs from *D. apicicornis* in having the apical joints of the antennæ and the tibiæ entirely fulvous; the thorax punctured; and the elytra with extremely thin black streaks, the streaks resembling those of *D. fulvicornis*, but of more elongate shape, and in this respect approaching *D. apicicornis*. From *D. semicirculata* the present insect differs in having the intermediate joints of the antennæ black, and the elytra without a spot before the middle.

45. **Diabrotica nigro-signata.** (Tab. XXX. fig. 10.)

Flavous, the antennæ and tibiæ black; thorax bifoveolate; elytra scarcely visibly punctured, testaceous, a spot at the base, a short longitudinal stripe at the shoulders, and a triangular spot near the apex of each, black.

Length 2 lines.

Head impunctate, fulvous, the lower part flavous; the frontal tubercles indistinct, narrowly transverse; antennæ nearly as long as the body, entirely black, the second and third joints short, equal, the fourth joint very long; thorax subquadrate, narrowed at the base, the surface with two broad and rather deep depressions and an obsolete groove near the anterior margin, the disc shining, fulvous, impunctate; scutellum flavous; elytra rather flattened and parallel, only very finely punctured near the suture, with an elongate spot near the scutellum, a longer stripe (pointed at its upper end) extending from the shoulders nearly to the middle, and a subtriangular spot near the apex of each, black, the markings smooth; the underside and legs flavous, the tibiæ and tarsi black.

Hab. GUATEMALA, San Gerónimo, San Isidro (*Champion*).

D. nigro-signata differs entirely from any of the preceding species by the elytra being scarcely visibly punctured and by the markings being differently placed.

An example from San Gerónimo is figured.

46. **Diabrotica trifurcata.** (Tab. XXX. fig. 4.)

Head, the intermediate joints of the antennæ, the breast, tibiæ, and tarsi, black; thorax rufous, with three depressions; elytra testaceous, a transverse band at the base split into three branches, and an undivided one near the apex, violaceous-blue.

Var. Legs entirely fulvous.

Length 3 lines.

Head impunctate, bluish-black; antennæ two thirds the length of the body, the third joint nearly twice the length of the second, the three or four basal and the three apical joints fulvous, the others black; thorax slightly broader than long, reddish-fulvous, shining, the disc with an obscure basal and two deep lateral depressions, the surface impunctate; elytra closely punctured, the interstices somewhat rugose, with the blue basal band placed across the basal margin and divided into three branches (of which the lateral are the longest and placed at the shoulders, the intermediate one occupying the sutural margin anteriorly), and the transverse narrow band below the middle slightly curved and narrower towards the suture.

Hab. NICARAGUA, Chontales (*Janson, Belt*); COSTA RICA, Volcan de Irazu (*Rogers*); PANAMA, Volcan de Chiriqui (*Champion*).

The principal distinguishing characters of this species are the subapical transverse blue band of the elytra and the reddish-fulvous thorax; and, also, the connection at the base of the three anterior elytral stripes, these stripes being pointed and in some specimens showing inclinations of again uniting at their lower ends—thus indicating a similar pattern to that found in *D. adelpha* and allied species. There are several forms before me which show slight differences in the thickness of the elytral stripes and also in the colour of the legs; but I am unable to say with certainty whether these must be looked upon as varieties or not.

We figure a specimen from the Volcan de Chiriqui.

47. **Diabrotica semiflava.**

Flavous, the head and breast black, the antennæ fulvous; thorax bi-impressed; elytra flavous, the sutural and lateral margins green, with three longitudinal spots at the base, and two transversely-shaped spots below the middle, black.

Length 2 lines.

Head impunctate, black; antennæ fulvous, the first joint green, the second and third joints short, the third joint one half longer than the second; thorax pale testaceous, narrowly margined with green, the disc depressed on each side; scutellum black; elytra very closely punctured, the interstices somewhat rugose, the disc flavous, the margins pale green, with three short streaks at the base (the middle one the narrowest and situated at the sutural margin, the others at the shoulders), and a short transverse spot or band (not extending to either margin) below the middle, black; femora pale green, the tibiæ and tarsi fulvous.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

48. **Diabrotica cyaneo-maculata.** (Tab. XXX. fig. 8.)

Testaceous, the head and the breast black; thorax bifoveolate, distantly punctured; elytra closely punctured, with a spot at the shoulder, the suture, and another spot below the middle, metallic blue.

Length 2–2½ lines.

Head impunctate, the frontal tubercles well developed; antennæ entirely fulvous, the third joint one half longer than the second; thorax one half broader than long, pale flavous, the surface with some fine and remotely placed punctures, bifoveolate; scutellum black; elytra distinctly and very closely punctured.

Hab. COSTA RICA (*Van Patten*), Volcan de Irazu, Cache (*Rogers*).

The anterior elytral spot is of elongate, the posterior one of rounded, shape, these spots being placed in a line near the sides of each elytron. *D. cyaneo-maculata* may be known principally amongst its allies by the sutural margin being entirely bluish, which colour gradually widens out towards the base. The four specimens before me show no particular variation, except in size.

The Irazu specimen is figured.

i. *Elytra testaceous, with longitudinal black stripes and small spots, the latter sometimes absent.*

49. **Diabrotica nigro-lineata.** (Tab. XXX. fig. 16.)

Diabrotica nigrolineata, Jac. P. Z. S. 1878, p. 149 [1].

Diabrotica oberthüri, Baly, Trans. Ent. Soc. Lond. 1886, p. 452 [2].

Hab. MEXICO, Teapa, Cordova (*Sallé*); GUATEMALA [1 2], Aceytuno (*Salvin*), Capetillo, Cerro Zunil, San Gerónimo, Purula (*Champion*).

A comparison of the insect described under the above name by Mr. Baly with the type of *D. nigro-lineata* in my own collection has proved to me their identity. There are specimens of several closely allied species before me, of which the present one may be known by the black head and the submarginal black line of the elytra; this line in nearly every individual curves round near the apex and extends to the suture.

A specimen from Cerro Zunil is figured.

50. **Diabrotica curvilineata.** (Tab. XXX. fig. 15.)

Testaceous, the labrum, breast, and tibiæ black; thorax with a deep depression; elytra testaceous, with the suture anteriorly, a narrow submarginal stripe (abbreviated near the apex), and two small spots (one near, the other below the middle), black.

Var. The elytral spots connected and forming a discoidal narrow line.

Length 2½–3 lines.

Hab. MEXICO, Playa Vicente, Cordova, Tuxtla (*Sallé*); BRITISH HONDURAS, R. Sarstoon (*Blancaneaux*); GUATEMALA, Pantaleon, Zapote, Mirandilla, San Gerónimo, Chacoj, Teleman (*Champion*); PANAMA, Volcan de Chiriqui (*Champion*).

Closely allied, and almost similar in the elytral pattern, to *D. nigro-lineata*; but differing in the head being fulvous, and the elytra having narrower black lines (of which the lateral one is more or less interrupted near the apex), and two small spots placed one below the other on the disc of each. In the variety in which these spots are represented or connected by a black line, as in the preceding species, this line is shorter and does not extend so far upwards. In *D. curvilineata* the basal margin of the elytra constantly remains of the ground-colour; in the allied species it is black. The antennæ have the intermediate joints, and the apex of the terminal one, more or less infuscate. Having no intermediate forms between this insect and *D. nigro-lineata* before me, I am obliged to treat them as distinct species.

51. **Diabrotica unistriata.**

Testaceous, the head, breast, tibiæ, and tarsi black; thorax fulvous, the disc foveolate; elytra very minutely punctured, testaceous, with a narrow longitudinal stripe near the lateral margin, black.

Length 3 lines.

Head black; antennæ stout, the three basal joints testaceous, the five following ones piceous, the others flavous, the third joint one half longer than the second; thorax slightly broader than long, the sides nearly straight, the surface impunctate, with three obsolete foveæ on the disc; elytra scarcely visibly punctured, testaceous, each with a narrow longitudinal black stripe placed close to the lateral margin but not extending to the apex; abdomen and femora flavous, the tibiæ and tarsi black.

Hab. COSTA RICA (*coll. Jacoby*).

A single specimen.

52. **Diabrotica unilineata.** (Tab. XXX. fig. 14.)

Testaceous, the antennæ, the upper margin of the femora, the tibiæ, and tarsi black; head and thorax fulvous, the latter bifoveolate and with four black spots; elytra with the suture narrowly, and a submarginal stripe, black.

Var. Thorax without spots.

Length 2-2½ lines.

Head with a few fine punctures on the vertex, the latter with a deep fovea; labrum fulvous; antennæ black, the last two joints stained with fulvous at their base, the third joint nearly twice the length of the second; thorax quite one half broader than long, the surface rather convex, finely and rather closely punctured, with two small but deep foveæ and four small black spots placed transversely across the disc before the middle; scutellum black; elytra very closely, distinctly, and somewhat rugosely punctured, the suture narrowly throughout its entire length, and a slightly curved and inwardly directed stripe commencing at the shoulders and extending nearly to the apex, black; beneath testaceous; the femora marked with a black line on their upper edge, the tibiæ and tarsi entirely black.

Hab. Mexico, Guanajuato, Yolos, Juquila (*Sallé*), Jalapa, Chilpancingo (*Höge*).

A very distinct species, apparently allied to *D. interrupta*, Baly, from which it differs in the colour of the antennæ, underside, and legs, and in the spotted and punctured thorax. In general shape *D. unilineata* is somewhat flattened and widened posteriorly.

53. **Diabrotica trilineata.** (Tab. XXX. fig. 13.)

Flavous, the upper part of the head, the intermediate joints of the antennæ, the breast, the upper edge of the femora, and the tibiæ black; thorax bifoveolate; elytra closely punctured, the suture and a submarginal stripe black.

Length 3 lines.

The lower part of the face flavous, the vertex black; antennæ piceous, the lower edge of the basal joints flavous, the terminal joints obscure fulvous, the third joint nearly twice the length of the second; thorax about one half broader than long, the disc finely punctured and with two deep impressions; scutellum black; elytra rather convex and parallel, closely and distinctly punctured, the sutural and submarginal stripes broader than in *D. unilineata*; the sides of the breast black; the legs flavous beneath, black above, the tarsi black.

Hab. Guatemala, Capetillo, Dueñas (*Champion*).

D. trilineata is larger, and more convex and parallel, than *D. unilineata*. The head black at the base; the antennæ and the underside and legs differently coloured; and the elytral stripes are broader, but otherwise similar in shape and position. *D. interrupta*, Baly, seems closely allied; but is described as having the second and third joints of the antennæ short and equal, and the last abdominal segment black.

j. *Elytra testaceous, narrowly margined with black.*

54. **Diabrotica högei.** (Tab. XXX. fig. 12, var.)

Head, the intermediate joints of the antennæ, the breast, tibiæ, and tarsi, black; thorax bifoveolate, black, the sides and a central band flavous; elytra finely punctured, testaceous, narrowly margined with black.

Var. Thorax entirely testaceous.

Length 3 lines.

Head impunctate, the frontal tubercles very obsolete and divided by a deep groove, the carina acutely raised; antennæ about half the length of the body, the third joint one half longer than the second, the three lower joints fulvous*, the five following black, the ninth and tenth joints testaceous, the apex of the terminal one black; thorax subquadrate in the male, slightly broader in the female, the surface not visibly punctured, but with a small more or less distinct fovea on each side, in colour piceous or black, with the lateral margins narrowly and a longitudinal central band flavous; scutellum black; elytra nearly parallel, very finely and moderately closely punctured, flavous or testaceous, with all the margins narrowly, and the apices a little more broadly, black; breast black, the abdomen and the femora testaceous.

Hab. Mexico, Jalapa (*Höge*).

I do not think I err in treating the specimens described above with a uniformly-coloured testaceous thorax as varieties of *D. högei*, as they agree closely with the typical form; they have, however, the elytra more narrowly margined with black.

* In one specimen the basal joint is whitish and the two following joints stained with piceous.

k. *Elytra entirely pale flavous or greenish.*

55. Diabrotica obscura.

Ovate, widened behind; obscure greenish-flavous, the head, antennæ (the basal joints excepted), breast, tibiæ, and tarsi black; thorax bifoveolate; elytra scarcely visibly punctured; abdomen flavous.

Var. *a*. The underside and legs black, the base of the femora flavous.

Var. *b*. Beneath pale flavous, above greenish.

Length 2½–3 lines.

Head impunctate, black; antennæ extending to about half the length of the elytra, fuscous or black, the three basal joints flavous, the third one half longer than the second (but much shorter than the fourth) joint; thorax about one half broader than long, the disc impunctate, with a small fovea on each side; elytra rather flattened and widened posteriorly, very closely and finely punctured.

Hab. MEXICO, Etla, La Parada, Yolos, Totosinapan (*Sallé*), Oaxaca (*Boucard*).

D. obscura may be recognized by the rather ovate and flattened shape and the uniform pale flavous or greenish upper surface. If I refer rightly all the specimens to one species, the underside and legs vary in coloration: in the specimens with the underside dark the bases of the femora are always more or less flavous; in those with pale breast and abdomen the legs are greenish. *D. melanopa*, Erichs., differs in the non-foveolate thorax and the more strongly punctured elytra.

56. Diabrotica olivieri.

Flavous, the head, the intermediate joints of the antennæ, the tibiæ, and tarsi black; thorax depressed on the disc; elytra finely and very closely punctured.

Length 3 lines.

Head impunctate, with the usual fovea, black; antennæ with the three lower and the three apical joints pale testaceous, the intermediate joints and the apex of the terminal one dark, the third but slightly longer than the short second joint; thorax slightly broader than long, not visibly punctured, the surface flattened, with a more or less deep fovea on each side; elytra closely punctured.

Hab. MEXICO, Cordova (*Sallé*); BRITISH HONDURAS, R. Hondo (*Blancaneaux*); NICARAGUA, Chontales (*Janson*).

I cannot refer this insect to any described species, on account of the unicolorous upper- and under-sides and the black head, tibiæ, and intermediate joints of the antennæ. In the single Mexican specimen the thorax is of a more fulvous colour and its disc is more deeply foveolate; in the one from British Honduras the apices of the elytra have an obscure piceous spot. Other differences I am unable to find.

l. *Elytra green, with flavous or fulvous markings.*

57. Diabrotica porracea. (Tab. XXIX. figg. 17, 18.)

Diabrotica porracea, Harold, Coleopt. Hefte, xiii. p. 93 (1875)[1]; Dej. Cat. 3rd ed. p. 404[2].

Diabrotica costatipennis, Jac. P. Z. S. 1878, p. 996[3].

Hab. MEXICO[1 2], Monclova in Coahuila, Ciudad in Durango, Ventanas (*Forrer*),

Hacienda de Bleados, San Luis Potosi (*Dr. Palmer*), Colima city, Irapuato, Tacambaro, Matamoros Izucar, Jalapa, Tapachula (*Höge*), Cordova, Oaxaca, Puebla, Cuernavaca, Guanajuato (*Sallé*); British Honduras, R. Sarstoon (*Blancaneaux*); Guatemala (*Sallé*), near the city (*Salvin*), Cerro Zunil, Panajachel, Volcan de Agua, Capetillo, Dueñas Santa Rosa, San Gerónimo (*Champion*); Nicaragua, Chontales (*Janson*); Costa Rica [3] (*Van Patten*), Volcan de Irazu, Rio Sucio, Cache (*Rogers*); Panama, Bugaba, Volcan de Chiriqui (*Champion*).

D. porracea seems to be one of the commonest and most widely distributed species of the genus in Central America; it is also a very variable one. The absence of intermediately marked specimens induced me to describe *D. costatipennis* as a distinct species: our additional material, however, proves *D. costatipennis* to be a pale unicolorous flavous variety of *D. porracea*. In the typical form the elytra are green, and have a broad longitudinal band of flavous throughout their entire length; this band is often interrupted in the middle (thus forming two elongate spots), and frequently disappears altogether (*D. costatipennis*). In all the forms, however, there are three or four feeble, closely placed, subcarinate costæ on each elytron; and a more distinct and straight costa commencing at the shoulder and extending nearly to the apex. The legs and antennæ are sometimes nearly black; in the normal forms the legs are green and the tibiæ fulvous.

We figure a typical specimen (Tab. XXIX. fig. 17) from Cordova, and a variety (Tab. XXIX. fig. 18) from Santa Rosa.

58. **Diabrotica sex-maculata.** (Tab. XXIX. fig. 16.)

Diabrotica sexmaculata, Baly, Ann. & Mag. Nat. Hist. 5th ser. iii. p. 81 (1878) [1].

Hab. Mexico, Tuxtla, Yolotepec (*Sallé*), Jalapa, Cordova, Zacualtipan (*Höge*); Guatemala [1], Tamahu, Chiacam (*Champion*).

In this species the disc of each elytron is occupied by three large patches of pale fulvous (the intermediate one being of the shape of a slightly curved transverse band) separated by narrow bands of green. The head in all the specimens before me is green, the labrum fulvous.

59. **Diabrotica variegata.** (Tab. XXXI. fig. 2.)

Flavous, the head, breast, tibiæ, and tarsi black; thorax dark fulvous, without foveæ; elytra green, the shoulders and the suture anteriorly, a transverse band near the middle (connected with the basal markings), and a curved transverse band below the middle, piceous.

Length 2 lines.

Head black, impunctate; antennæ nearly as long as the body, the second and third joints very short, the three basal joints green, the following joints fuscous, the apical ones obscure fulvous; thorax dark fulvous, subquadrate, without any depressions or punctures; scutellum piceous; elytra finely and closely punctured, pale green, with a ring-shaped basal mark connected posteriorly with a transverse band (not extending to the lateral margin), and another transverse dentate band before the apices, piceous; abdomen pale flavous; femora green, the tibiæ, tarsi, and breast black.

Hab. MEXICO, Presidio (*Forrer*).

The design of the elytra in this species greatly resembles that of *D. adelpha* and *D. tibialis*, except that the transverse bands in *D. variegata* are of more angular or dentate shape; the green colour of the elytra will further assist in the recognition of the species.

60. **Diabrotica selecta.** (Tab. XXIX. fig. 21, var.)

Piceous, the first joint of the antennæ green; thorax green, bifoveolate; elytra minutely punctured, green, each with an elongate oblique spot at the base, a short transverse band below the middle, and the apex, flavous; femora green; abdomen flavous.

Var. Head flavous; elytra green, with a small spot at the shoulder, and a narrow obsolete band below the middle, flavous.

Length 3 lines.

Hab. GUATEMALA, Cerro Zunil, Panajachel, Volcan de Agua (*Champion*).

D. selecta differs from *D. sex-maculata* principally in the shape and position of the fulvous spots on the elytra: the basal spot is of a narrow elongate shape and extends in an oblique direction nearly to the middle; the second one does not extend to either margin, and is followed by a large ovate spot occupying the entire apex. In the variety the head is nearly flavous, and the elytra are entirely green and have the basal and postmedian spots only indicated; in other respects this form does not differ from the type. The antennæ have the second and third joints very short and equal; the basal joint is green, the others piceous or dark fulvous. The thorax is shining, and has two deep foveæ. In the female the elytra show traces of longitudinal costæ.

61. **Diabrotica fusco-maculata.** (Tab. XXIX. fig. 25, var.)

Diabrotica fuscomaculata, Jac. P. Z. S. 1878, p. 994[1].

Diabrotica ornatula, Baly, Journ. Linn. Soc., Zool. xix. p. 224[2].

Var. *a. Diabrotica inconstans,* Baly, l. c. p. 224[3].

Var. *b.* Elytra pale fulvous or greenish, with a reddish-fulvous transverse band at the base.

Var. *c.* Entirely of a whitish-testaceous colour.

Hab. MEXICO[2 3], Monclova in Coahuila, San Luis Potosi (*Dr. Palmer*), Cordova, Jalapa, Playa Vicente, Tapachula (*Höge*), Oaxaca, Orizaba, Puebla, La Parada, Cordova, Toxpam (*Sallé*); BRITISH HONDURAS, Belize, R. Hondo (*Blancaneaux*); GUATEMALA[1], near the city, Dueñas (*Salvin*), Quezaltenango, Totonicapam, Cerro Zunil, Aceytuno, San Gerónimo, San Joaquin, Cahabon, Chacoj (*Champion*); NICARAGUA[1 3], Chontales (*Belt*); COSTA RICA (*Van Patten*); PANAMA, Bugaba, Volcan de Chiriqui, David (*Champion*).—COLOMBIA[2 3], Bogota; AMAZONS[2 3]; CHILI (*coll. Jacoby*).

This is such a variable insect that it has been described under three different names; but the very large amount of material before me enables me to say without doubt that the above forms merely represent varieties of *D. fusco-maculata.* In the type the elytra are of a bright green, with three piceous or reddish-fulvous spots or bands; these spots

or bands either become gradually obsolete or disappear altogether; and the two pale flavous spots surrounding the darker bands (*D. ornatula*, Baly) also gradually disappear till the entire insect is of a pale testaceous colour; specimens of this latter form have been obtained at Playa Vicente only. All possible intermediate degrees are before me, while the sculpture of the elytra and other structural differences remain the same. *D. fusco-maculata* cannot, I believe, be a variety of *D. porracea*, the latter never having a transverse fulvous band across the base of the elytra, and is, moreover, about double the size of the present insect. Discoloration after death seems to be the principal cause of the change of colour from green to pale flavous.

This species is apparently abundant throughout Central America. A variety from Cerro Zunil is figured.

62. **Diabrotica scutellata.**

Piceous; thorax pale green, bifoveolate; elytra finely rugose and costate, green, the sides anteriorly and a spot near the apex flavous, the scutellum surrounded by a triangular piceous spot.

Length 2 lines.

Hab. MEXICO, Cordova (*Sallé*); GUATEMALA, San Gerónimo, Senahu, San Juan in Vera Paz (*Champion*).

At first sight *D. scutellata* seems only to be one of the many varieties of *D. fusco-maculata*, with which it agrees in having the thorax and the elytra similarly sculptured. The head, however, is piceous or black; and the piceous spot surrounding the scutellum and pointed at the suture behind is never present in any of the numerous specimens I have examined of *D. fusco-maculata*; in this latter the dark basal band is, on the contrary, narrowed near the sutural margin.

63. **Diabrotica rufo-maculata.** (Tab. XXIX. fig. 22.)

Green, the head and breast rufous, the antennæ (the first joint excepted) and tibiæ obscure fulvous; thorax deeply bifoveolate; elytra finely punctured and obsoletely grooved, green, the base and a spot before and a transverse band below the middle rufous, the apex flavous.

Length 3 lines.

Head not longer than broad, the vertex impunctate, the carina acutely raised, the labrum testaceous; antennæ not much shorter than the body, the first joint green, the second and third joints very short and equal; thorax subquadrate, the disc with two deep depressions, impunctate; scutellum fulvous; elytra obsoletely longitudinally grooved, very finely punctured, green, a transverse band at the base not quite extending to the lateral margin, a spot near the suture before the middle, and a narrow slightly curved transverse band below the middle, rufous, the apex pale flavous; the breast fulvous, the abdomen testaceous, the femora green.

Hab. MEXICO, Yolotepec (*Sallé*).

A single specimen, differing from the allied green-coloured species in the markings of the elytra.

64. **Diabrotica balteata.** (Tab. XXIX. fig. 23.)

Diabrotica balteata, Lec. Proc. Acad. Phil. 1865, p. 213[1].
Diabrotica sallei, Baly, Journ. Linn. Soc., Zool. xix. p. 227[2].

Hab. North America[1].—Mexico, Minas Viejas, Monclova in Coahuila (*Dr. Palmer*), Presidio, Ventanas, Mazatlan (*Forrer*), Guanajuato, Cordova, Oaxaca, Vera Cruz, Tuxtla, Orizaba, Puebla (*Sallé*), Jalapa, Huetamo, Sayula, Chilpancingo, Acapulco, Tapachula (*Höge*); British Honduras, R. Sarstoon, R. Hondo (*Blancaneaux*); Guatemala (*coll. Baly*[1]), near the city (*Salvin, Champion*), Capetillo, Dueñas, Zapote, Volcan de Atitlan, Purula (*Champion*); Honduras (*Sallé*); Nicaragua, San Juan, Granada (*Sallé*), Chontales (*Janson, Belt*); Costa Rica (*Van Patten*), Volcan de Irazu, Cache (*Rogers*).—Colombia[2].

Leconte's short description can only apply to the present insect. *D. balteata* is a widely distributed and common species in our region; *D. sallæi*, Baly, is identical with it. I have more than two hundred examples before me: these prove that the colour of the insect is subject to great variation, no doubt attributable to immaturity or to discoloration after death; the green bands of the elytra in such specimens frequently becoming more or less indistinct or disappearing altogether. In the typical form the elytra are flavous, with three narrow bright green transverse bands, the basal band dividing the flavous portion into two spots.

An example from Oaxaca is figured.

65. **Diabrotica tortuosa.** (Tab. XXX. fig. 18.)

Dark fulvous or piceous; thorax green, bifoveolate; elytra flavous, finely and closely punctured, each with a narrow transverse band before and another at the middle, and a ring-shaped mark near the apex, green; abdomen greenish.

Length 3 lines.

Head reddish-fulvous, shining, impunctate; the frontal tubercles indistinct, the carina acutely raised; antennæ reddish-piceous, the first joint green, the second and third joints short, the latter one half longer than the second; thorax about one half broader than long, green, shining, the surface impunctate, with two deep foveæ; scutellum obscure fulvous; elytra very closely and finely punctured, with some obsolete longitudinal costæ, flavous, a transverse narrow band (obliquely directed from the suture to the lateral margin) before the middle, another similar (but straight) band at the middle, and a ring-shaped mark near the apex of each, green; breast obscure piceous, the abdomen and the femora green, the tibiæ dark fulvous.

Hab. Mexico, Las Peras (*Sallé*), Jalapa (*Höge*).

The two specimens before me show no difference whatever in the elytral markings; these markings differ from those of all the allied species in this section, with the exception of those of *D. rufo-maculata*. This latter closely approaches *D. tortuosa*, although the spots are red instead of flavous (if the green portion is taken for the ground-colour); it is quite possible, however, that *D. tortuosa* represents but a variety of *D. rufo-maculata*.

m. *Elytra entirely green or flavous.*

66. **Diabrotica dissimilis.** (Tab. XXIX. fig. 19.)

Diabrotica tenella, Baly, Trans. Ent. Soc. Lond. 3rd ser. ii. p. 348 (1865) (nec Lec.)[1].

Var. *a.* Elytra flavous, narrowly margined with green.
Var. *b.* Entirely flavous, the four apical joints of the antennæ fuscous.

Hab. Mexico[1], Toxpam, Oaxaca, Playa Vicente, Capulalpam (*Sallé*), Cordova, Jalapa (*Höge*); Guatemala, Paraiso, Las Mercedes, Cerro Zunil, Zapote (*Champion*), Dueñas (*Salvin*); Nicaragua, Chontales (*Belt*); Panama, Caldera in Chiriqui, Tolé, San Feliz (*Champion*), near the city (*Boucard*).

I have examined the type of this insect, and find that many of our specimens agree with it in having the upper surface uniformly green. The above-mentioned varieties only differ in colour. These latter have three or four of the apical joints of the antennæ fuscous, and the elytral punctuation, as well as everything else, agreeing with the type. Some examples also are intermediate in colour between green and fulvous or flavous.

The name *tenella* having already been used by Leconte for another species of the genus, I am obliged to change it.

67. **Diabrotica impressipennis.** (Tab. XXXI. fig. 17.)

Head and the intermediate joints of the antennæ dark fulvous; thorax green, deeply bifoveolate; elytra with a deep impression before and another below the middle, bright green, very shining; femora green; beneath (including the abdomen) flavous or fulvous.

Var. Thorax rufo-piceous, the elytra and legs obscure flavous.

Length 3 lines.

Head impunctate, the frontal tubercles distinct; antennæ with the first joint green, the sixth, seventh, and eighth joints obscure piceous, the terminal one fuscous, the second and third joints very short and nearly equal; thorax subquadrate, impunctate, deeply bifoveolate; scutellum piceous; elytra very finely and closely punctured, transversely depressed before and below the middle, the intervening space at the sides with a semilunate depression.

Hab. Panama, Volcan de Chiriqui (*Champion*).

Although the two specimens obtained differ totally in coloration, they agree entirely in the elytral sculpture and other particulars. The elytra have, in addition to the above-described depressions, some obscure and very short costæ on the anterior portion, and are also very shining in appearance. By this latter character alone the species may be at once separated from unicolorous specimens of *D. dissimilis.*

n. *Elytra green, with piceous markings.*

68. **Diabrotica piceo-notata.** (Tab. XXXI. fig. 1.)

Fulvo-piceous, the antennæ (the apical joint excepted) flavous; thorax green, with piceous markings, without foveæ; elytra closely punctured, dark green, obsoletely spotted with piceous at the base and also on the disc; tibiæ and tarsi pale green.

Length 4 lines.

Head longer than broad; frontal tubercles strongly raised; vertex impunctate, foveolate; eyes very large; carina distinct; clypeus transversely thickened; labrum black; antennæ two thirds the length of the body, flavous, the seventh and eighth joints slightly, the terminal one distinctly, marked with fuscous, the second and third joints very short, nearly equal; thorax subquadrate, the sides nearly straight, the surface without foveæ, rather convex, with a few minute and scattered punctures, dark green, with an obsolete longitudinal lateral and a central piceous band; scutellum piceous; elytra convex, widened posteriorly, with a short longitudinal sulcation below the shoulder, dark green, a spot at the middle of the base, a longitudinal stripe from the shoulder to the middle connected posteriorly with an obscure transverse band, and a spot below the middle, piceous; femora and the claws piceous, the tibiæ and tarsi pale green.

Hab. PANAMA, Bugaba (*Champion*). A single specimen.

The piceous spots of the elytra are probably subject to variation, or may disappear altogether. The large size and non-foveolate thorax, as well as the fine punctuation of the elytra, will separate *D. piceo-notata* from any of the green-coloured species.

Section 2. *Antennæ with the third joint distinctly longer (often much longer) than the second.*

In this section I include all those species which have a distinctly longer, sometimes very much longer, third joint to the antennæ, this joint here being at least twice the length of the second. The division of the genus into two sections is rather an arbitrary one, but it is adopted for the convenience of determining the very numerous species; and it is necessary to observe that cases occur in which the intermediate length of the joint in question leaves it often doubtful in which section to look for the species: this could not be avoided, and is, as a rule, rare. In addition to the numerous species included in this section of *Diabrotica*, there are many others with the antennæ thus formed which closely resemble similarly-coloured species of this genus, but yet will be found to possess appendiculate (not bifid) claws, and generally in connection with a deep thoracic transverse groove (instead of two foveæ); these I have been obliged to separate from *Diabrotica*, and an examination of the claws will in all cases be necessary to determine the true position of any species. Two species, *D. tripunctata* and *D. foveipennis*, described by me, really belong to *Malacosoma*, and are here referred to that genus. In regard to colour, it seems that in *Diabrotica*, as well as in other genera, a number of very closely-allied species exist which can only be separated by attaching importance to small but evidently constant differences; and such differences, if not observed or regarded as specific, would gradually link together a great number of forms which in the end would diverge into species totally distinct from a given type.

a. *Elytra dark-coloured, with longitudinal testaceous vittæ; the interspaces generally costate.*

69. Diabrotica corusca.

Diabrotica corusca, Harold, Coleopt. Hefte, xiii. p. 92 (1875) [1]; Baly, Journ. Linn. Soc., Zool. xix. p. 230[2].

Diabrotica alternans, Sturm, in litt.

Hab. Mexico, Presidio (*Forrer*), Teapa, La Parada, Oaxaca [2] (*Sallé*), Jalapa, Cordova, Chilpancingo, Colima city, Acapulco (*Höge*); British Honduras, R. Hondo (*Blancaneaux*); Guatemala (*Sallé*), El Reposo, Las Mercedes, Cerro Zunil, Rio Maria Linda, Capetillo, San Gerónimo, Teleman, Chacoj (*Champion*); Honduras (*Sallé*); Nicaragua, Chontales (*Janson, Belt*); Costa Rica (*Van Patten*), Cache (*Rogers*); Panama, Bugaba, Volcan de Chiriqui (*Champion*).—Colombia[1 2].

The typical form of *D. corusca* may be known by the two metallic blue stripes (sutural and sublateral) of the elytra, these stripes being separated by a subsutural flavous longitudinal band occupying two costæ which are wider than those placed on the rest of the surface. In respect of colour and size the insect varies greatly, many specimens obtained in Chiriqui having the elytral stripes of a pale fuscous colour, and the head varying from black to fuscous or obscure fulvous; intermediate degrees in shade of colour are also before me, but structural differences of importance I cannot detect. According to Mr. Champion this and several closely allied species principally affect Cucurbitaceous plants, both wild and cultivated.

70. Diabrotica fairmairei.

Diabrotica fairmairei, Baly, Trans. Ent. Soc. Lond. 1886, p. 447 [1].

Hab. Mexico [1], Juquila, Cordova, Orizaba (*Sallé*), Mexico city, Jalapa, Cordova, Chilpancingo (*Höge*); British Honduras, R. Sarstoon (*Blancaneaux*); Guatemala (*Sallé*), near the city (*Salvin*), Cerro Zunil, Panajachel, Zapote, Capetillo, Dueñas, San Gerónimo, Purula, Sabo, San Juan in Vera Paz, Cahabon (*Champion*); Nicaragua, Chontales (*Belt*); Costa Rica (*Van Patten*), Irazu, Cache (*Rogers*).

D. fairmairei has been separated by Mr. Baly from *D. corusca* and *D. innuba* on account of the third elytral costa being the widest, while in the two last-named species the second and third costæ are wide and equal; I may add to this that in *D. fairmairei* it is the third costa which is flavous in colour, the others, with the exception of the lateral margin, being either fuscous, violaceous, or bluish. I do not think that much reliance can be placed on the colour of the head; it is, however, usually dark or reddish-fulvous with a more or less violaceous hue, but in many specimens much darker and nearly black. *D. fairmairei* does not seem to extend further south than Costa Rica, but is replaced by several closely allied forms in the State of

Panama. Mr. Baly [1] says nothing about the elytra having the apices produced into a small tooth as in *D. corusca*, this character being constant in more than fifty specimens before me. In a few, however, obtained with the normal form at Cerro Zunil the elytra are rounded at the apices and of a more shining metallic colour; but, in the absence of other marks of distinction, I have thought it best not to separate these examples from the present insect. Another closely-allied form, *D. consimilis*, has been described by Mr. Baly; this differs in the narrower third elytral costa.

I should refer many specimens from Guatemala to this last-named insect had I not numerous examples before me which, on account of the intermediate width of the costa in question, prove that not too much dependence can be placed on this character by itself.

71. Diabrotica consimilis.

Diabrotica consimilis, Baly, Trans. Ent. Soc. Lond. 1886, p. 449 [1].

Hab. GUATEMALA, Quezaltenango, Volcan de Agua (*Champion*).—ECUADOR [1]; PERU [1].

I must refer the ten specimens obtained by Mr. Champion in Guatemala to this species, with the description of which they entirely agree. In *D. consimilis* the elytra are entirely black, with the exception of the margins and the flavous vitta, this latter being confined to a single costa which is not broader than the others; the antennæ have the three basal joints flavous below (the description gives the colour as piceous); and the legs are black, the femora broadly flavous at the base.

72. Diabrotica longicollis.

Black; thorax flavous, with two impressions, scarcely broader than long; elytra piceous, with a subsutural broad vitta and the lateral margin flavous, the interstices strongly punctured and longitudinally costate, sparingly covered with white pubescence.

Length $1\frac{1}{2}$–2 lines.

Head black, impunctate; antennæ somewhat thickened towards the apex, the lower three and sometimes the apical two joints fulvous, the rest black, the third joint rather more than twice the length of the second; thorax subquadrate, narrowed towards the base, the surface impunctate, with two distinct foveæ near the base; elytra strongly and closely punctured, the punctures forming single rows and interrupted at the dark portion by narrow longitudinal costæ, the flavous subsutural costa much broader and smooth, and connected at the apex with the similarly coloured lateral margin.

Hab. GUATEMALA, Volcan de Atitlan, Zapote (*Champion*).

The comparatively long thorax, in connection with the sculpture and pubescence (sometimes abraded) of the elytra, will help to separate *D. longicollis* from its several allies; the deep elytral punctuation arranged in single rows is another character of distinction.

73 Diabrotica theimei.

Diabrotica theimei, Baly, Journ. Linn. Soc., Zool. xix. p. 231 [1].

Hab. MEXICO [1], Presidio (*Forrer*), Cordova, Vera Cruz (*Sallé*), Jalapa, Matamoros

Izucar, Cerro de Plumas, Acapulco (*Höge*); British Honduras, R. Hondo (*Blancaneaux*); Guatemala, El Tumbador, Zapote, San Gerónimo, Purula, Tamahu, Chacoj, Cubilguitz, Chiacam (*Champion*); Nicaragua, Chontales (*Janson*); Costa Rica (*Van Patten*), Irazu (*Rogers*); Panama, Bugaba, Volcan de Chiriqui, Caldera (*Champion*).—Colombia [1]; Guiana, Cayenne [1]; Ecuador [1]; Brazil, Bahia [1]; West Indian Islands [1].

A comparison of specimens of *D. theimei*, kindly given to me by Mr. Baly, with the Central-American insect proves the identity of the latter with this species. The broad raised yellow costa (this costa alone being broader than the others) principally separates *D. theimei* from *D. kirschi*; but the head is as frequently black as testaceous, and its colour cannot be used as a distinctive character. In most specimens the antennæ have the eighth and ninth joints, as well as the three or five basal ones, pale. A certain number of examples show the following differences from the type: the flavous subsutural elytral vitta broader and narrowly costate at its outer edge only, and the sides of the elytra either entirely without costæ and strongly punctured only, or furnished with curved (not straight) costæ; between this and the typical form some intermediate degrees of sculpturing occur, although it is possible that these specimens may represent another closely allied species.

74. **Diabrotica obscuro-fasciata.**

Pale testaceous; thorax deeply bifoveolate; elytra each with eight narrow longitudinal costæ, the first, fifth, and seventh of these obscure fuscous.

Length 3 lines.

Head impunctate, the vertex sometimes with an obscure fuscous spot; antennæ about two thirds the length of the body, pale testaceous, the third joint twice the length of the second; thorax subquadrate, one half broader than long, the surface impunctate but with two deep foveæ; elytra with single rows of deep punctures between the costæ, the latter of equal width and placed at regular intervals, the first or subsutural and the fifth and seventh fuscous, the two latter abbreviated before the apex.

Hab. Mexico, Yolos, La Parada (*Sallé*).

It will not be difficult to separate *D. obscuro-fasciata* from *D. fairmairei* and the allied species, on account of the colour and equal width of the costæ. This insect is entirely pale testaceous, with the exception of the three darker costæ on each elytron.

75. **Diabrotica vittata.** (Tab. XXXI. fig. 5.)

Crioceris vittata, Fabr. Syst. Ent. p. 122 (1775) [1].

Galeruca vittata, Oliv. Ent. vi. p. 633, t. 3. fig. 38 [2].

Diabrotica vittata, Lec. Proc. Ac. Phil. 1865, p. 213 [3].

Hab. North America [1 2 3].—Mexico, Northern Sonora (*Morrison*), San Luis Potosi, Monclova in Coahuila (*Dr. Palmer*), Cordova, Vera Cruz, Yolos, Guanajuato, La Parada (*Sallé*), Aguas Calientes city, Villa Lerdo in Durango, Irapuato, Matamoros Izucar, Chilpancingo, Jalapa, Acapulco (*Höge*); Guatemala, near the city, Capetillo, Dueñas,

San Gerónimo (*Champion*); Nicaragua, Chontales (*Janson*); Costa Rica (*Van Patten*), Volcan de Irazu (*Rogers*).

I am not quite certain whether I rightly refer the specimens from the above localities to this insect, the description of Fabricius being too short to recognize with certainty a species so closely allied to several others. It is very likely that *D. trivittata*, Mannerh., is a variety of *D. vittata*, in which (according to Leconte) the thoracic depressions are not confluent and the legs differently coloured; specimens marked in this way, and intermediately, are before me, and *D. vittata* is probably subject to a good deal of variation. In the Central-American specimens the subsutural flavous vitta of the elytra extends to three costæ, these costæ being broader than the others (Mr. Baly, in speaking of *D. vittata*, cf. Journ. Linn. Soc., Zool. xix. p. 231, says that the second and third elytral costæ are broader and equal); the legs black, with the base of the femora flavous; the head entirely black; and the antennæ have the basal joint generally testaceous.

An example from the Volcan de Irazu is figured.

76. **Diabrotica porosa.** (Tab. XXXI. fig. 9.)

Black; thorax testaceous, obsoletely impressed; elytra deeply subfoveolate-punctate, the interstices costate, piceous, each with a narrow flavous subsutural and lateral vitta joined at the apex; legs piceous, the base of the femora and the posterior tibiæ flavous.

Length $1\frac{1}{2}$–2 lines.

Hab. Mexico, Jalapa (*Höge*); Guatemala, Pantaleon (*Champion*); Panama, Bugaba, Volcan de Chiriqui (*Champion*).

Amongst the small species of this section having flavous elytral vittæ, *D. porosa* may be recognized by the deep punctures of the elytra, these punctures being arranged in single rows at the sides, while those near the suture are smaller and irregularly geminate. The subsutural flavous costa is broader than the other costæ and separated by a row of punctures, and the interstices between the large lateral punctures are slightly longitudinally raised. The antennæ are generally fuscous towards the apex, the other joints being entirely flavous; sometimes, however, the intermediate joints are darkened.

Only a single specimen was obtained at Jalapa; this differs from the others in having the flavous elytral vitta rather broader towards the base, where another short flavous band is attached to it on its inner side, the latter not quite extending to the middle. We figure a specimen from the Volcan de Chiriqui.

77. **Diabrotica difformis.** (Tab. XXXII. fig. 9.)

Flavous, the upper part of the head black, the intermediate and apical joints of the antennæ piceous; thorax bifoveolate; elytra black, finely costate, a triangular spot at the apices and the lateral margin flavous.

♂. The fifth, sixth, and seventh joints of the antennæ widened and produced into a hooked point, the eighth joint thickened; elytra excavate near the apices.

Length 2 lines.

Head black, the frontal tubercles and the entire lower portion flavous; clypeus flattened, with a short rather indistinct central ridge; antennæ two thirds the length of the body, the three lower joints and the eighth joint also flavous, the other joints piceous, the third joint twice as long as the second; thorax transverse, flavous, the surface impunctate, with a rather deep transverse, medially interrupted, depression; scutellum piceous; elytra black, each with about six more or less distinct longitudinal costæ, the interspaces transversely reticulate and impressed with double rows of punctures, a triangular space at the apices flavous in colour, excavate, and produced outwardly into a tubercle, the inner angle of this excavation being black, the lateral margin flavous; underside and legs flavous.

Hab. GUATEMALA, San Gerónimo (*Champion*).

Only a single male specimen was obtained; the female doubtless has, like several other allied forms, simple antennæ and elytra. *D. difformis* agrees almost entirely in coloration and sculpture with *D. longitarsis*, but differs in the flavous face, the structure and colour of the antennæ, and the colour of the elytra. *D. curtisi*, Baly, and *D. coryphæa*, Baly, have simple antennæ in both sexes.

78. **Diabrotica flavo-vittata.**

Diabrotica flavo-vittata, Baly, Trans. Ent. Soc. Lond. 1886, p. 446[1].

Hab. MEXICO, Yucatan[1].

79. **Diabrotica cornuta.** (Tab. XXXI. fig. 8.)

Diabrotica cornuta, Baly, Trans. Ent. Soc. Lond. 1886, p. 448[1].

Hab. MEXICO[1], Vera Cruz (*coll. Baly*), Cordova, Tuxtla (*Sallé*), Acapulco (*Höge*); GUATEMALA[1].—PERU[1].

In one specimen before me the labrum is black; and in another the sixth and seventh joints of the antennæ only are black. *D. cornuta* may be recognized by the black thorax, and the male by the curious protuberances of the clypeus.

A specimen from Cordova is figured.

80. **Diabrotica setosa.** (Tab. XXXII. fig. 19.)

Diabrotica setosa, Baly, Trans. Ent. Soc. Lond. 1886, p. 454[1].

Hab. MEXICO, Teapa[1]; GUATEMALA, Cerro Zunil (*Champion*).

A single specimen only was obtained by Mr. Champion in Guatemala; this agrees entirely with the author's description, though the hairs are only just visible on the elytra. In the Guatemalan specimen the antennæ are black, with the three basal joints testaceous below, and the sixth and seventh joints flavous.

The Mexican locality, Teapa, requires confirmation.

81. Diabrotica medio-vittata.

Diabrotica mediovittata, Baly, Journ. Linn. Soc., Zool. xix. p. 237[1].

Hab. HONDURAS (*Sallé*); NICARAGUA, Chontales (*Janson*); PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).—EASTERN COLOMBIA [1].

The type of *D. medio-vittata*, kindly lent to me by its describer, agrees in all respects with specimens from Nicaragua and also with others from the State of Panama. There are, however, other examples before me undoubtedly belonging to *D. medio-vittata* which differ in the sculpture of the elytra, a character perhaps peculiar to the female sex; in these specimens each elytron has about six thin, raised, slightly curved costæ which disappear entirely before the apex. In the normal form the elytra are simply punctured, but more strongly so towards the sides; both forms were obtained at the same time and place and differ in no other way. *D. medio-vittata* has black elytra, a narrow flavous outer margin, interrupted behind, and a discoidal subsutural vitta which does not extend to the apex but is slightly curved in shape and widened at its posterior portion. The antennæ are black, with the two penultimate joints obscure flavous; and the femora generally have a piceous stripe on their upper edge. *D. similata*, Baly, seems to me to be identical with *D. medio-vittata*, according to the description, and to represent the form in which the elytra are costate; the variety of the former with less distinctly costate elytra noticed by Mr. Baly showing the intermediate stage.

82. Diabrotica horni.

Ovate, dilated posteriorly, black; antennæ long and slender, black, the apical three joints obscure flavous; thorax fulvous or flavous, deeply bifoveolate; elytra with a subsutural and lateral flavous vitta, strongly punctured at the sides, more finely on the disc; femora flavous at the base.

♂. Lower part of the face flavous; antennæ as long as the body.

♀. Head entirely black; antennæ shorter.

Var. Antennæ, the intermediate joints excepted, and legs fulvous.

Length 1½–2 lines.

Hab. MEXICO, Playa Vicente, Tuxtla (*Sallé*), Jalapa, Teapa, Tapachula (*Höge*); BRITISH HONDURAS, R. Hondo (*Blancaneaux*); GUATEMALA, El Tumbador, El Reposo, Cerro Zunil, Zapote (*Champion*); NICARAGUA, Chontales (*Janson*).

Closely allied in shape and coloration to *D. separata*, Baly, but differing in the much longer and thinner antennæ, these organs in the male extending to the end of the elytra. *D. horni* may, however, be principally separated from its allies by the elytra having no costæ, and consequently the flavous subsutural band, although as broad as in *D. separata*, is not raised and smooth but flattened like the rest of the disc and punctured; the lateral portion of the elytra is coarsely punctured, the interstices being somewhat rugose with traces of narrow longitudinal costæ. In several specimens the sixth, seventh, and eighth joints of the antennæ are black, the other joints and the legs fulvous; other differences I am not able to find; I therefore treat these as a variety of *D. horni*.

b. *Elytra light-coloured, with longitudinal black or blue stripes.*

83. **Diabrotica cava.** (Tab. XXXI. fig. 7.)

Galleruca cava, Say, Bost. Journ. Nat. Hist. i. 1835, p. 198[1]; Complete Writings, ii. p. 668.

Var. Head partially or entirely black; thorax with or without two small black spots.

Hab. Mexico[1], Monclova and Saltillo in Coahuila (*Dr. Palmer*), Yolos, Etla, Tuxtla, Cordova, Toxpam, Oaxaca, Guanajuato (*Sallé*), Durango city, San Juan del Rio, Villa Lerdo, Cordova, Jalapa (*Höge*); Guatemala, Quezaltenango, Dueñas, Capetillo, San Gerónimo (*Champion*); Costa Rica, Volcan de Irazu (*Rogers*).

Say's description[1] of *D. cava* is sufficient for the recognition of the species; the author, however, makes no mention of a shorter or longer black stripe on the upper edge of the femora and on the outer side of the tibiæ and tarsi, a character constant in all the specimens before me. The head and thorax are of a reddish-fulvous colour in the typical form; the thorax is closely punctured and has two deep foveæ, one on each side; the elytra are strongly and closely punctured, with a sutural and a lateral blue stripe, the latter not extending to the apex. The specimens from Saltillo and Guatemala have an entirely or partly black head and two thoracic spots, and seem, at first sight, to represent another species; I am unable, however, to look upon them as such, as so many intermediate degrees of colour and marking are before me. Examples were also obtained having the vertex only black, the lower part of the face being testaceous; some of these forms have the thoracic spots, in others they are absent. The punctuation of the thorax, as well as the depth of the foveæ, is equally variable. An example from Cordova is figured.

84. **Diabrotica vicina.**

Black, the lower part of the face flavous; thorax closely and distinctly punctured, bifoveolate, with two small black spots (sometimes absent); elytra closely and distinctly punctured, flavous, a narrow sutural and a broader lateral stripe, black; legs flavous, striped with black, the posterior pair black.

Length 2–3 lines.

Hab. Mexico, Saltillo in Coahuila (*Dr. Palmer*), Ventanas (*Forrer*), La Parada, Guanajuato (*Sallé*), Salazar (*Höge*).

D. vicina differs from *D. cava* in the elytra being much more finely punctured, and with black (instead of blue) bands; in the typical form of *D. cava* the thorax is much more coarsely punctured. In spite of these differences, which I look upon at present as specific, I have grave doubts about their value as such. The characters, however, I have pointed out as distinguishing *D. vicina* from *D. cava* are constant in six specimens before me.

85. **Diabrotica decorata.** (Tab. XXXI. fig. 6.)

Oblong, dilated posteriorly, black, above testaceous, the vertex with two, the thorax with four, black spots;

elytra closely and distinctly punctured, the suture and a broad longitudinal band on the disc of each, black.

Length 2½–3 lines.

Head impunctate, flavous, the vertex with two black spots; labrum more or less black; antennæ black, the basal joint fulvous below, the third joint twice as long as the second; thorax twice as broad as long, the disc finely and closely punctured, with an obsolete fovea on each side, testaceous or flavous, with four small black spots placed transversely across the disc; scutellum black; elytra widened posteriorly, somewhat rugosely and closely punctured, the suture narrowly black, the entire middle portion of the disc occupied by a longitudinal black band not extending to the apex and gradually widened from the base to the posterior portion; femora flavous, the two anterior pairs with a black line above, the tibiæ and tarsi black.

Hab. MEXICO, Juquila, La Parada, Yolos, Coscomatepec (*Sallé*), Cordova (*Höge*).

Easily distinguished from *D. separata*, Baly, by the colour of the head, the spotted thorax, and the entirely different sculpture of the elytra. A specimen from Cordova is figured.

86. **Diabrotica granulata.** (Tab. XXXI. fig. 4.)

Piceous; thorax flavous, impunctate, bifoveolate; elytra minutely and subremotely punctured, without costæ, yellowish-white, a narrow sutural and a broad discoidal longitudinal vitta, black; legs flavous, marked with black.

Length 2 lines.

Head black, with a few fine punctures on the vertex, the latter deeply foveolate; clypeus entirely or partly flavous, with a distinct central ridge; antennæ black, the three basal joints flavous below, the third joint scarcely twice the length of the second; thorax twice as broad as long, the sides nearly straight at the base and slightly rounded and narrowed in front, the disc impunctate, with an oblique fovea on each side; scutellum black; elytra rather broad and flattened, very finely and not very closely punctured, the interstices very minutely granulate, the suture narrowly black throughout its entire length, the lateral vitta twice as wide as the sutural one and not quite extending to the apex; legs flavous, the anterior femora with a black line above, the knees, the outer side of the tibiæ, and the tarsi, black.

Hab. MEXICO, Cordova, Guanajuato (*Sallé*), Jalapa (*Höge*); GUATEMALA, Capetillo (*Champion*).

In general shape and in the elytral pattern this species resembles *D. decorata*, from which the fine punctuation of the elytra and their minutely granulate surface, as well as the absence of the thoracic spots, separate it. A similar difference in the punctuation of the elytra and the shape of the thorax distinguishes *D. granulata* from *D. maculicollis*, with which it agrees in the broad discoidal elytral vittæ. The flavous colour of the lower part of the face varies greatly in extent and is sometimes restricted to a small spot at the base of the antennæ. We figure an example from Guanajuato.

87. **Diabrotica maculicollis.**

Oblong ovate, widened behind, black; head and thorax fulvous, the disc of the latter deeply bifoveolate, and with four black spots; elytra closely semirugose-punctate, a sutural band, narrowed posteriorly, and a longitudinal discoidal vitta, narrowed at the base, black.

Length 3 lines.

Hab. Panama, Volcan de Chiriqui (*Champion*).

Closely allied to *D. decorata*, but differing as follows:—the head is without black spots; the thorax has only a few fine punctures, and is very deeply bifoveolate, and the black spots are much larger (though placed as in *D. decorata*); and the black sutural band of the elytra is gradually narrowed from the base to the apex.

88. **Diabrotica cerea.**

Black, the seventh and eighth joints of the antennæ pale; thorax flavous, bifoveolate; elytra very finely and rather closely punctured, flavous, each with a narrow sutural and a broad discoidal black vitta; legs pale flavous.

Length 1½–2 lines.

Hab. GUATEMALA, Coatepeque, San Isidro, Zapote (*Champion*).

Amongst the small-banded species of this section *D. cerea* may be known by the colour of the antennæ, the three basal and the seventh and eighth joints being pale testaceous, the same colour prevailing on the legs. The elytra are without costæ, and resemble those of *D. granulata* in their punctuation and in the width of the black bands; but in the last-named species the antennæ are without pale joints and the legs are strongly marked with black, while the general size is larger and broader; in *D. cerea* the entire head is black and the frontal tubercles are distinct. *D. medio-vittata* differs in the colour of the antennæ and legs, and in the abbreviated pale flavous subsutural vitta. The seven specimens before me show no differences of importance.

89. **Diabrotica nymphæa.**

Narrowly elongate, testaceous; antennæ, tibiæ, and tarsi, black; thorax fulvous, with two black bands; elytra finely punctured, testaceous, each with a broad longitudinal black band not quite extending to the apex.

Length 2 lines.

Head impunctate; the frontal tubercles transverse, narrow; antennæ long and slender, obscure fuscous, the basal joint more or less testaceous, the third joint very long; thorax slightly broader than long, bifoveolate, fulvous, with a longitudinal black band on each side; elytra with the shoulders acute and ridge-like, finely punctured, the black band occupying nearly the entire disc (slightly widened at the base, leaving the sutural and lateral margins testaceous) but not quite extending to the apex; legs black, the femora testaceous at the base.

Hab. PANAMA, Bugaba, Volcan de Chiriqui, Boquete, Caldera (*Champion*).

The long and slender antennæ (these organs being very nearly as long as the body), the two black bands on the thorax, the shining upper surface, and the broad elytral black bands are the chief characters of *D. nymphæa*.

90. **Diabrotica sex-lineata.** (Tab. XXX. fig. 11.)

Broadly ovate, piceous; head and thorax fulvous, the latter bifoveolate and strongly punctured; elytra rugose-punctate, flavous, the suture, and three narrow longitudinal stripes on each, black; femora flavous.

Length 3 lines.

Head deeply foveolate, impunctate, the frontal tubercles small and rounded; antennæ more than half the length of the body, the third joint rather more than twice the length of the second, the three basal and

the three apical joints obscure fulvous, the rest fuscous; thorax twice as broad as long, strongly punctured, bifoveolate; scutellum black; elytra more strongly punctured than the thorax, each with three longitudinal black stripes (the outer one near the lateral margin the longest, the others placed at equal distances and gradually shortened), between which indications of other short stripes are here and there visible, the suture also narrowly margined with black, the interstices rugose; underside piceous; femora flavous, the anterior pair marked with a black streak above, the tibiæ and tarsi black.

Hab. MEXICO, Juquila (*Sallé*).

A single specimen. The rugosely and strongly punctured elytra separate this very distinct species from any of the preceding.

91. **Diabrotica dejeani.**

Black, the head and thorax fulvous, the latter obsoletely depressed; elytra testaceous, remotely punctured, the anterior half of the sutural margin, and a longitudinal posteriorly greatly dilated band on the disc of each, black; femora testaceous.

Length $1\frac{3}{4}$–2 lines.

Head fulvous, the labrum piceous; antennæ nearly as long as the body, black, the basal joint fulvous below, the third joint twice the length of the second and shorter than the fourth joint; thorax nearly twice as broad as long, impunctate, the disc with a more or less distinct oblique depression on each side; scutellum fulvous or black; elytra remotely but distinctly punctured, the sides below the shoulder with an obsolete slightly curved costa, the sutural black stripe extending to the middle, where it is sharply pointed, the discoidal stripe occupying nearly the entire disc (being surrounded by a narrow testaceous margin of the ground-colour), the apical angles each with a minute black spot.

Hab. PANAMA, Bugaba (*Champion*).

Separated from the allied species with longitudinal black elytral bands by the fulvous head and the longer and more slender antennæ, and by the sutural stripe of the elytra only extending to the middle.

c. *Elytra black, with flavous spots or transverse bands.*

92. **Diabrotica lepida.**

Galleruca lepida, Say, Bost. Journ. Nat. Hist. i. p. 198 (1835)[1]; Complete Writings, ii. p. 667.
Cerotoma quadripustulata, Baly, Trans. Ent. Soc. Lond. 3rd ser. ii. p. 477[2].
Diabrotica signata, Sturm, Cat. p. 279 (1843)[3].

Hab. MEXICO[1 2 3], Toxpam, Vera Cruz, Cordova, Orizaba, Puebla, Oaxaca, Teapa (*Sallé*), Jalapa (*Höge*); BRITISH HONDURAS, R. Sarstoon, R. Hondo (*Blancaneaux*); GUATEMALA[2], Yzabal (*Sallé*), Senahu, Teleman, Tamahu, Panima, and Purula in Vera Paz (*Champion*); NICARAGUA, Chontales (*Janson, Belt*); COSTA RICA, Cache (*Rogers*).

This insect, on account of the open coxal cavities, must find its place in *Diabrotica*; it is very variable in size, and may be known by the elytra being black, with a transverse flavous central band and similarly-coloured apical spot; the head and thorax are rufous; the antennæ and legs flavous, the apical joints of the former fuscous; and the male has the deep frontal excavation of the head peculiar to several other species of the genus *Diabrotica*.

All the known localities for *D. lepida* are upon the Atlantic slope; it is apparently quite a common insect in Mexico and Guatemala.

93. **Diabrotica variabilis.**

Ovate, convex, dilated posteriorly, black; antennæ (the apical joints excepted) and legs flavous; head and thorax rufous, the latter bifoveolate; elytra greenish- or bluish-black, a deeply dentate spot at the base, a narrow transverse band at the middle, and an oblique band near the apex, fulvous or reddish-fulvous.

Var. *a*. The fulvous portion of the elytra predominating, the darker colour reduced to spots.

Var. *b*. Elytra black, the extreme lateral margins fulvous.

Var. *c*. Elytra testaceous, with a small scutellar dark spot.

♂. The space between the eyes deeply excavate.

Length 2½–3 lines.

Head rufous, shining, deeply excavated in the male; antennæ flavous, the apical four joints more or less stained with fuscous, the first joint (in the male) very long, the second one extremely short, the third and fourth joints nearly equal, the following joints gradually diminishing in length; thorax twice as broad as long, shining, impunctate, with a more or less deep transverse depression on each side; scutellum black; elytra widened posteriorly, rather strongly punctured, the punctuation arranged in closely approached lines, of a greenish-black colour, the extreme lateral margins, the epipleuræ, a deeply dentate triangular spot at the base extending to the shoulders and there joining the lateral margin, a narrow band extending completely across the middle, and an oblique shorter band near the apex of each, fulvous; legs flavous.

Hab. MEXICO, Cordova, Tapachula (*Höge*), Juquila (*Sallé*); GUATEMALA, El Reposo, San Isidro, Volcan de Atitlan, Pantaleon, Zapote, San Gerónimo, La Tinta, Chacoj, Teleman, Cahabon, San Juan in Vera Paz (*Champion*); NICARAGUA, Granada, San Juan (*Sallé*), Chontales (*Janson*); COSTA RICA (*Van Patten*); PANAMA, Bugaba, Volcan de Chiriqui, David, Tolé (*Champion*).

D. variabilis is closely allied in general shape and colour to *D. læta*, Fabr., *D. stevensi*, Baly, *D. beata*, Baly, and several other species; but may be known by the posterior fulvous oblique band of the elytra, this band being absent in the allied forms. The Mexican specimens nearly all differ from the numerous examples obtained in the State of Panama in having the elytra fulvous, with a deeply dentate basal band (sometimes divided into two spots), and a large transverse spot below the middle, as well as the apex, greenish-black; if the dark portion or bands predominate, the coloration is that of the type in which the fulvous colour assumes the shape of bands; between this form and the varieties several intermediate degrees are before me. The open coxal cavities prove this species to belong to *Diabrotica*. *D. clypeata*, Baly, is another allied insect, in which the male has the head excavated.

94. **Diabrotica ventricosa.** (Tab. XXXII. fig. 25.)

Diabrotica ventricosa, Jac. P. Z. S. 1878, p. 148[1].

Ovate, dilated, black; antennæ and legs flavous; head and thorax rufous, the latter obsoletely bifoveolate; elytra obsoletely costate, black, two spots at the base, a transverse band at the middle, and the apical margin, flavous.

♂. Head deeply excavate in the middle.

Length 2½ lines.

Hab. PANAMA [1], Bugaba, Volcan de Chiriqui (*Champion*).

D. beata, Baly, exactly resembles this species in coloration and shape and also very nearly in the sculpture of the elytra; but in *D. beata* the male is devoid of the frontal excavation, and the second joint of the antennæ is described as "compressed." In the male of *D. ventricosa* the basal joint of the antennæ is elongate but widened towards the apex; the second joint is short, but not globose or thickened; and the third joint is twice the length of the preceding one, and much shorter than the fourth. The elytra are more deeply sulcate and costate than in *D. beata*, and have the flavous bands somewhat thickened or raised; of the two basal spots the outer one is small, but the spot near the scutellum is nearly round and large; the narrow flavous apical margin does not extend upwards from the apex, and in this respect, as in all others regarding the coloration, *D. ventricosa* agrees entirely with *D. beata*.

Found in abundance at Bugaba.

95. **Diabrotica bifasciata.** (Tab. XXXII. fig. 23.)

Ovate, widened posteriorly, black, the head, antennæ, thorax, and legs, pale fulvous; thorax obsoletely bifoveolate; elytra closely punctured, black, a transverse band at the middle and another near the apex, flavous.

♂. Head deeply excavated in front; the first joint of the antennæ slightly dilated at the apex, the third joint curved.

Length 3 lines.

Head impunctate, deeply excavated in front; antennæ two thirds the length of the body, flavous or testaceous, the eighth and ninth joints slightly darker, the third joint four times as long as the second and curved at the base, the fourth and following joints gradually shorter; thorax twice as broad as long, the sides narrowed near the base, the surface with an obscure fovea on each side, impunctate; scutellum black; elytra rather convex, widened posteriorly, closely and distinctly punctured, black, a transverse band at the middle (of half the width of the black portion), and another band near the apex (neither band extending to the extreme lateral margin), flavous.

Hab. PANAMA, Bugaba, Volcan de Chiriqui 3000 feet (*Champion*).

D. bifasciata is larger than *D. lepida*; the elytral bands are straight and more regular, and wider; the thorax is less distinctly impressed; and the antennæ are differently formed. The female has no frontal excavation, and the antennæ in this sex have simple joints.

Found in abundance on the slope of the Volcan de Chiriqui, more rarely at Bugaba.

96. **Diabrotica funesta.**

Black, the apical four joints of the antennæ, the thorax, the anterior femora, and the posterior legs, testaceous; elytra black, scarcely punctured, a transverse band at the middle, and the apices, yellowish-white.

Length 3 lines.

Head black, impunctate, the clypeus with a strongly raised central ridge; antennæ two thirds the length of the body, the third joint more than twice the length of the second and as long as the fourth, the apical four joints pale testaceous, the extreme apex of the terminal one black; thorax rather more than one half broader than long, yellowish-white, shining, impunctate, the disc obsoletely transversely depressed; scutellum black; elytra with some very fine double rows of punctures, obsoletely sulcate and costate, a narrow whitish transverse band not quite touching either margin on the middle of each, the apex occupied by a triangular transverse band of the same colour; underside black; the anterior legs black,

their femora sometimes testaceous below; the intermediate legs testaceous, their tibiæ black; the posterior legs entirely yellowish-white, their tarsi sometimes black.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

In this somewhat parallel-shaped insect the central transverse band of the elytra is very regular and straight, and the apex of each elytron is of the same colour as the band. The obsolete sulcation of the elytra and their semi-geminate punctuation are further peculiar to *D. funesta*.

97. **Diabrotica nigrina.**

Black, the apical joints of the antennæ flavous; thorax testaceous, very obsoletely depressed; elytra black, distinctly punctured, a transverse band at the middle and the apices, flavous.

Length $2\frac{1}{2}$ lines.

Head impunctate, the clypeus with a narrow distinctly raised central ridge; antennæ two thirds the length of the body, black, the apical three joints flavous, the extreme apex of the terminal one black, the third joint twice the length of the second; thorax twice as broad as long, the sides nearly straight, the surface impunctate, with a scarcely visible depression at the sides; elytra finely and not very closely punctured, with an obsolete depression below the scutellum and another near the sides, the transverse flavous central band very narrow and extending completely across and slightly widened at the lateral margins, the apices also narrowly flavous; underside and legs black.

Hab. PANAMA, Bugaba (*Champion*).

Shorter, and more convex and dilated, than *D. funesta*; the elytra closely and more distinctly punctured, and without sulci; the legs entirely black.

98. **Diabrotica bisignata.**

Black, the apical joints of the antennæ, the thorax, abdomen, and femora flavous; thorax bifoveolate; elytra black, minutely punctured, a transverse band at the middle, and an oblique band at the apex of each, flavous.

Length $1\frac{1}{2}$–2 lines.

Head black, the clypeus with a distinctly raised central ridge; antennæ two thirds the length of the body, black, the third joint twice as long as the second, the basal joints obscurely stained with fulvous, the apical three flavous, the extreme apex of the terminal joint black; thorax twice as broad as long, flavous, the disc impunctate, with a distinct transverse depression not extending to the sides; scutellum black; elytra rather widened towards the middle, finely punctured (the punctuation a little more distinct at the sides, where it is arranged in nearly regular and slightly curved lines), the transverse flavous band at the middle widening a little inwardly and not extending to the suture but reaching the lateral margins, the latter also flavous nearly to the base, the apical band oblique in shape (but otherwise exactly resembling the central one); femora and abdomen flavous or fulvous, the tibiæ and tarsi black.

Hab. PANAMA, Bugaba (*Champion*).

Many specimens.

99. **Diabrotica dohrni.**

Black, the apical joints of the antennæ, the thorax, and abdomen testaceous; elytra black, sparingly punctured, a large transverse spot at the middle, and another spot of more rounded shape near the apex of each, flavous.

Length $2\frac{1}{2}$ lines.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

Closely allied to, but larger than, *D. bisignata* and possibly only a variety or the female sex of that insect; it differs as follow:—the thorax is less distinctly impressed; the spots of the elytra do not extend to either margin, and the posterior one is of more rounded shape; and the legs are black, with the exception of the base of the posterior femora, this part being flavous. In all other respects the present insect agrees with the preceding.

100. **Diabrotica subsignata.** (Tab. XXXII. fig. 10.)

Black; thorax and abdomen flavous, the former without depressions; the apical three joints of the antennæ testaceous; elytra finely punctured, two spots at the base, a transverse band at the middle, and the apex of each, yellowish.

Length $2\frac{1}{2}$ lines.

Head black; the clypeus with a strongly raised central ridge; antennæ rather more than half the length of the body, the third joint three times as long as the second, the three lower joints testaceous, the basal one stained with piceous above, the following five joints black, the rest flavous, the extreme apex of the terminal joint black; thorax one half broader than long, dark flavous, the surface rather convex, impunctate and without depressions; elytra finely and closely punctured, black, a small spot below the shoulder, a larger oval one near the scutellum, a transverse band at the middle, and an irregular-shaped spot at the apex, pale yellowish; the breast and legs black, the extreme base of the femora fulvous, the abdomen flavous.

Hab. PANAMA, David in Chiriqui (*Champion*). A single specimen.

D. subsignata resembles *D. morosa*, Jac., in the design of the elytra, but differs in the structure of the antennæ, and in the smooth, convex thorax. The black bands of the elytra which divide and surround the flavous spots are narrow; the posterior band is widened laterally, and extends along the sides nearly to the apical black spot.

101. **Diabrotica cinctella.**

Diabrotica cinctella, Harold, Mittheil. Münch. ent. Ver. 1877, p. 110[1].

Var. *Diabrotica puella,* Baly, Journ. Linn. Soc., Zool. xix. p. 238[2].

Var. Thorax with a black central longitudinal band or spot.

Hab. NICARAGUA, Chontales (*Janson*); PANAMA, Bugaba, Volcan de Chiriqui, David, La Caldera, San Feliz, Peña Blanca (*Champion*).—COLOMBIA [1] [2].

I can only look upon *D. puella* as a variety of *D. cinctella*, although it perhaps represents the normal form; I have before me a great number of specimens of both forms from numerous localities which show no other marks of distinction but that of colour. In Von Harold's species the elytra are simply blackish, with a narrow lateral and apical flavous margin; in the variety there is a discoidal flavous spot on the middle of each elytron and also an oblique short band near the apex. The elytra are either finely or rather strongly punctured on the disc, the more or less distinct lateral longitudinal groove very strongly so; and the thorax is either entirely flavous, or has a more or less distinct central black spot. Both forms agree entirely in structural details. I have been enabled through the kindness of Mr. Baly to examine the type of *D. puella*;

it agrees in every way with the specimens from Nicaragua and the State of Panama. *D. cinctella* varies in size from 1 to 1½ line.

102. **Diabrotica hirta.** (Tab. XXXII. fig. 16.)

Testaceous, the head black, the antennæ, tibiæ, and tarsi, fuscous; thorax quadrate, bifoveolate; elytra black, closely punctured, sparingly clothed with whitish hairs, the lateral and apical margins, and a spot at the middle of each, testaceous.

Length 2½ lines.

Head impunctate, with a central fovea, the frontal tubercles nearly obsolete; clypeus with a distinct central ridge; labrum black, impressed with four punctures; antennæ more than half the length of the body, the basal joint testaceous, the following seven joints fuscous or piceous, the terminal three joints obscure fulvous; thorax quadrate, not broader than long, testaceous, the sides nearly straight, the surface very minutely punctured, with two small foveæ; scutellum piceous; elytra rather flattened and parallel, very closely and finely punctured, with rather long and scattered stiff pubescence, the disc black and with a central small transverse pale yellowish spot, the lateral margins narrowly, and the apices more broadly, flavous; underside and femora testaceous, the breast obscure piceous.

Hab. Costa Rica, Volcan de Irazu (*Rogers*).

A single specimen, resembling in its coloration *D. cinctella*, but larger and with the elytra distinctly pubescent; the third joint of the antennæ is more than twice the length of the second.

d. *Elytra metallic or black, the lateral margins and a transverse central band flavous.*

103. **Diabrotica cruciata.** (Tab. XXXII. fig. 2.)

Black, the apical joints of the antennæ, and the thorax testaceous; thorax transversely depressed; elytra testaceous, finely punctured, an elongate subquadrate band extending to the middle, and a transverse patch below the middle, dark metallic blue; legs testaceous.

Length 3½–4½ lines.

Of elongate, parallel shape; the head impunctate, black; the antennæ rather more than half the length of the body, the third joint twice as long as the second, the four lower joints more or less stained with fulvous, the four or five following ones piceous, the apical joints testaceous; thorax rather more than twice as broad as long, the sides distinctly constricted at the base, the surface impunctate, flavous or testaceous, with a rather deep depression extending nearly across the entire disc; scutellum flavous or piceous; elytra very closely and finely punctured, the dark bluish portion interrupted below the middle by a transverse flavous band and by the very narrow flavous sutural and slightly broader lateral margins (the flavous pattern in the shape of a reversed cross).

Hab. Guatemala, San Isidro, Zapote, Teleman (*Champion*); Salvador (*mus. Stuttgart*).

Allied to *D. adonis*, Baly, and several other species in regard to the elytral pattern; but differing in the darker portion being interrupted on all sides, forming an elongate subquadrate band anteriorly and a large oval spot below the middle.

A specimen from San Isidro is figured.

104. **Diabrotica adonis.** (Tab. XXXI. fig. 21.)

Diabrotica adonis, Baly, Ann. & Mag. Nat. Hist. 3rd ser. iv. p. 272 (1859) [1].

Var. *Diabrotica zonata*, Harold, Coleopt. Hefte, xiii. 1875, p. 91 [2].

Hab. PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).—COLOMBIA [2]; VENEZUELA [1]; AMAZONS (*coll. Jacoby*).

Found in abundance by Mr. Champion in Chiriqui. Central-American specimens differ from the typical form in having entirely yellow legs and tarsi, and the elytra either metallic purplish or green in colour, interrupted by a transverse narrow central flavous band and the similarly coloured lateral margin. I scarcely think the Panama insect differs sufficiently to be treated as distinct.

105. **Diabrotica festiva.**

Black, joints 6–8 of the antennæ testaceous; thorax transverse, obsoletely transversely grooved, testaceous; elytra bluish-black, scarcely punctured, the lateral and apical margins, and a narrow transverse band in the middle, testaceous.

Length 2½–3 lines.

Head impunctate, black, the frontal tubercles but little raised, the space between the antennæ scarcely carinate; antennæ nearly as long as the body, the five lower joints obscure fuscous partly stained with testaceous, the following three joints pale testaceous, the rest fuscous or black, the third joint more than twice the length of the second; thorax rather more than twice as broad as long, the sides straight at the base, slightly rounded and widened in front, the anterior angles tuberculiform and each with a single seta, the surface impunctate, with a distinct but not deep transverse depression on each side; scutellum black; elytra distinctly punctured on the paler portion only, with an obsolete costa below the shoulder, very dark bluish-black, this colour interrupted at the middle by a narrow transverse testaceous band which joins the similarly-coloured lateral margin; legs fulvous, the tarsi obscure fuscous.

Hab. PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).

Much smaller than *D. adonis* or *D. pulchella*, Baly, and more finely punctured; the underside in one specimen is obscure testaceous.

106. **Diabrotica nicaraguensis.**

Below piceous; head black; thorax flavous, transverse, deeply sulcate; elytra nearly impunctate, flavous, a broad band extending to the middle, and another band below the middle, black; femora flavous.

Length 4 lines.

Hab. NICARAGUA, Chontales (*Belt*).

D. nicaraguensis resembles in the pattern of the elytra *D. adonis*, Baly, *D. peruana*, Jac., and *D. cruciata*; but may be known by the black, not metallic, bands of the elytra, and the smooth impunctate elytral surface. The head is longer than broad; the palpi are flavous; the antennæ are black (the last three joints are wanting), and have the third joint twice as long as the second; the thorax is deeply transversely depressed and impunctate; and the elytral bands extend to the sutural (but not to the lateral or apical) margins, and are divided in the middle by a narrow transverse flavous band.

e. *Elytra testaceous, fulvous, or red, with darker (sometimes blue) transverse bands or spots.*

107. **Diabrotica nigro-fasciata.** (Tab. XXXI. figg. 24; 25, var.)

Cerotoma nigrofasciata, Jac. P. Z. S. 1878, p. 996[1].

♂. Lower part of the face very deeply excavated; the fifth joint of the antennæ strongly emarginate or concave at its upper margin.

Var. Lower part of the head flavous; elytra reddish-fulvous, the black transverse bands reduced to spots or entirely absent.

Hab. MEXICO, Cordova, Teapa, Jalapa, Acapulco, Tapachula (*Höge*), Juquila, Toxpam, Vera Cruz (*Sallé*); BRITISH HONDURAS, R. Sarstoon, R. Hondo (*Blancaneaux*); GUATEMALA[1] (*Sallé*), Aceytuno (*Salvin*), Capetillo, Zapote, Volcan de Atitlan, El Tumbador, Cerro Zunil, Sabo, Lanquin (*Champion*); NICARAGUA, Granada (*Sallé*); COSTA RICA[1] (*Van Patten*); PANAMA, Bugaba, Volcan de Chiriqui, David (*Champion*).

An abundant species in our region. The anterior coxal cavities prove, on a closer inspection, to be really open, and the insect must therefore find its place in *Diabrotica*. The male, like several of the allied species, has a deep frontal excavation and abnormal antennæ; in the female the front is not excavate, and somewhat rugose. The three transverse black elytral bands differ in width, and are sometimes only indicated or altogether absent; the elytra are thus in this latter form (principally from Mexico) entirely fulvous. The elytra are very strongly punctured and almost rugose, and in the female show traces of longitudinal raised ridges. The elytral sculpture is a distinguishing character of *D. nigro-fasciata*.

We figure a typical specimen from Toxpam, and a variety from Juquila.

108. **Diabrotica connexa.** (Tab. XXXII. fig. 20.)

Diabrotica connexa, Lec. Proc. Acad. Phil. 1865, p. 212[1].

Hab. NORTH AMERICA, Texas[1].—MEXICO, Tuxtla (*Sallé*).

Two specimens in the collection of M. Sallé are named as above; they agree perfectly with the description of *D. connexa*. The elytral design is not unlike that of *D. adelpha* and several allied species. The elytra (as well as the thorax) are flavous, and have the anterior portion occupied by a transverse fulvous band, this band being emarginate at the sides and including a small flavous spot near the base; below the middle are two small fulvous spots placed transversely. The long third joint of the antennæ places *D. connexa* in the present division.

109. **Diabrotica rufo-fasciata.** (Tab. XXX. fig. 21.)

Oblong ovate, dilated posteriorly, flavous, the apical joints of the antennæ fuscous, the head rufous; thorax transversely grooved, impunctate; elytra closely punctured, flavous, a broad transverse band at the base, and another below the middle, rufous.

Length 3–4 lines.

Head with a few fine punctures on the vertex, the sides of the clypeus more strongly punctured, rufous; labrum flavous; antennæ flavous, the three or four apical joints obscure fuscous, the third joint twice the length of the second; thorax one half broader than long, flavous, the disc with a transverse depression (in the shape of a curved groove), impunctate; scutellum piceous; elytra strongly dilated posteriorly, rather convex, very closely punctured, the anterior rufous band extending nearly to the middle, the posterior band of equal width (both bands interrupted at the extreme lateral margin); breast piceous, the abdomen and legs flavous.

Hab. PANAMA, Bugaba (*Champion*).

In the specimen figured the thorax is slightly stained with greenish. The broad rufous elytral bands principally distinguish *D. rufo-fasciata*.

110. **Diabrotica dorso-plagiata.** (Tab. XXXII. fig. 24, var.)

Flavous, the tibiæ and tarsi piceous; thorax very finely punctured, without depressions; elytra very closely punctured, more or less obsoletely longitudinally sulcate, the suture, the base narrowly, a narrow transverse band before the middle, and a second band beyond the middle (the bands connected at the sides with a lateral stripe starting from the base), dark fulvous.

Var. The lateral elytral stripe extending to the suture near the apex; the tibiæ flavous.

Length 3–3½ lines.

Antennæ more than half the length of the body in the male, the apical joints sometimes fuscous, the third joint twice the length of the second; thorax subquadrate, slightly narrowed near the base, the surface without depressions, very finely and closely punctured; elytra extremely closely punctured, with some obsolete longitudinal sulcations, the sides below the shoulder marked by a more or less distinct short costa, the surface of each divided into three large flavous spaces by the narrow transverse dark fulvous bands, the fulvous lateral stripe extending from the base to the second transverse band, the apices remaining of the ground-colour.

Hab. GUATEMALA, Capetillo, Cerro Zunil, Panajachel (*Champion*); COSTA RICA, Volcan de Irazu (*Rogers*).

In the variety (a single specimen from Costa Rica) the three testaceous spaces of the elytra are closed at the sides by the lateral longitudinal stripe curving round to the sutural margin near the apex; in the Guatemalan examples the corresponding lateral stripe ends at the second transverse band. In all the specimens the two elytral bands are slightly oblique. The subquadrate and finely punctured thorax is another character peculiar to *D. dorso-plagiata*.

An example of the variety from Irazu is figured.

111. **Diabrotica lævicollis.** (Tab. XXXII. fig. 4, var.)

Broadly ovate, subdepressed, black, the head rufous; thorax rufous, with two black spots, trifoveolate; elytra fulvous, finely rugose, each with two spots at the base, two near the apex, and a transverse band at the middle, black; legs testaceous.

Var. The elytral spots more or less confluent.

Length 3½–4 lines.

Head impunctate, rufous or fulvous; antennæ obscure fulvous, the basal joints sometimes stained with piceous, the third joint more than twice the length of the second; thorax one half broader than long, rather flattened, with three foveæ and a central longitudinal groove (the groove sometimes obsolete), the disc impunctate, a black spot on each side above the lateral foveæ; scutellum black; elytra broad, subdepressed, widened posteriorly, finely rugose throughout, each with two elongate spots (placed transversely)

at the base, two similarly-shaped spots near the apex, and a transverse band at the middle (neither of these marks touching the sutural or the lateral margins), black; legs testaceous.

Hab. MEXICO, Cordova, Orizaba (*Sallé*), Jalapa (*Höge*).

This species is of a very broad, flattened shape, and the abdomen in the female is greatly inflated; all the structural characters peculiar to the genus are present. In the variety the anterior black elytral spots are confluent with the band, leaving only a small fulvous spot between them.

We figure a specimen of the variety from Jalapa.

112. **Diabrotica suffriani.** (Tab. XXXII. fig. 3.)

Black; thorax fulvous, without depressions; elytra testaceous, a transverse band at the base, another at and a third below the middle, as well as the apex of each, black; femora fulvous.

Length 3 lines.

Head without punctures, the clypeus with a distinctly raised central ridge; antennæ black, half the length of the body, the basal joint sometimes testaceous at the apex, the third joint twice the length of the second; thorax but slightly broader than long, fulvous or flavous, entirely impunctate, and without depressions; scutellum black; elytra scarcely visibly punctured (even under a strong lens), testaceous, a narrow transverse band at the base extending downwards a little distance along the suture, a transversely subquadrate band at the middle, a similar band of less regular shape near the apex, and the apex itself, black; underside black; femora fulvous, the knees, tibiæ, and tarsi black.

Hab. MEXICO, San Isidro (*Höge*).

In the elytral pattern and colour this insect resembles *D. albo-signata* of the first section; but differs in the want of thoracic depressions, the longer third joint of the antennæ, and the entirely black under surface. The elytral bands do not extend quite to the lateral or sutural margins, with the exception of the one at the base, which is common to both elytra, but also abbreviated at the sides; the third band is of a dentate shape as if composed of two spots joined together.

113. **Diabrotica figurata.** (Tab. XXXII. figg. 14; 15, var. *b*.)

Subdepressed, slightly widened, black, the antennæ fulvous; thorax testaceous, bifoveolate; elytra finely and sparingly punctured, testaceous, each with a spot at the base, another at the middle, and a third near the apex, black; legs testaceous.

Var. *a*. The elytral spots more or less connected laterally; the abdomen testaceous.

Var. *b*. The elytra black, the sutural and lateral margins narrowly testaceous.

Length 2–2½ lines.

Head black; antennæ fulvous, the basal joint piceous, the third joint twice as long as the second, the other joints rather short and robust in the female, more elongate in the male; thorax twice as broad as long, the sides nearly straight, the surface impunctate, with a small fovea on each side, fulvous or testaceous; scutellum black; elytra rather flattened, remotely and indistinctly punctured, testaceous, with variable black markings—sometimes with a spot at the base, another at the middle, and a third near the apex, sometimes with an elongate stripe at the sides from the base to the middle, the stripe deeply hollowed or emarginate on its inner side, and a transverse spot near the apex, and sometimes black, with the margins narrowly testaceous; legs testaceous.

Hab. GUATEMALA, San Isidro, Pantaleon, Volcan de Atitlan, Zapote (*Champion*).

None of the elytral black bands extend to the sutural or lateral margins; in some

specimens the bands are more or less connected and occupy nearly the entire disc, in others they are only indicated by small spots.

We figure a typical example from the Volcan de Atitlan, and the var. *b* from San Isidro.

114. **Diabrotica hirsuta.**

Piceous, the head black; thorax obscure piceous, obsoletely bifoveolate; elytra flavous, closely pubescent, the suture, a lateral spot at the middle, and a transverse band near the apex, black.

Length 1½ line.

Head not longer than broad, black, the frontal tubercles distinct, the vertex with a few minute punctures; antennæ two thirds the length of the body, the third joint twice the length of the second, the four lower and the three apical joints obscure testaceous, the intermediate ones nearly black; thorax subquadrate, constricted near the base, the surface impunctate, with a small fovea on each side, of a pale piceous colour; scutellum black; elytra closely punctured, the punctuation arranged in nearly regular rows (more distinct below the shoulders) and consisting of small and larger impressions, the disc closely covered with whitish pubescence, an elongate spot at the sides extending from below the shoulders to the middle, a narrow transverse band extending across the suture near the apex, and the suture narrowly, black; the base of the femora yellowish-white, the rest of the underside and the legs piceous.

Hab. MEXICO, Colima city (*Höge*).

A single specimen.

115. **Diabrotica depressa.**

Broadly ovate, depressed, testaceous, the antennæ stained with piceous above; thorax transverse, obsoletely bifoveolate; elytra irregularly punctured, testaceous, with a transverse band at and another below the middle (connected at the suture), and a small spot at the base, black.

Var. Elytra almost entirely black, the base and the sides with testaceous spots.

Length 2½–3½ lines.

Head with a more or less distinct fovea on the vertex, the latter impunctate, sometimes stained with piceous at the base; the frontal tubercles elongate, nearly contiguous, and joined to the clypeus; antennæ but little shorter than the body, the apex of each joint testaceous, the first joint entirely of that colour, the others piceous above, the third joint twice the length of the second but distinctly shorter than the fourth; thorax strongly transverse, more than twice as broad as long, the margins nearly straight, the surface flattened, impunctate, and with a small obsolete fovea on each side; scutellum broad, testaceous; elytra flattened, finely punctured anteriorly, the posterior portion nearly impunctate, the black pattern of variable shape (somewhat resembling the letter *x*), the apical and basal portions testaceous, the latter with one or two small black spots; the underside and femora testaceous, the tibiæ and tarsi more or less piceous; the first joint of the posterior tarsi longer than the following two joints together.

Hab. MEXICO, Cordova (*Sallé*).

This is a species of a peculiarly broad and flattened appearance, possessing, however, all the structural characters of *Diabrotica*. The thorax is broader than in most of the allied forms, being nearly as wide at the base as the elytra. The elytral markings are somewhat in the form of the letter *x*, and of variable thickness, the anterior hook being sometimes connected with another black stripe extending upwards to the shoulders, the small black spot at the base in some specimens nearly obsolete, in others well-marked; in the variety the black colour predominates to such an extent as only

to indicate by testaceous spots those places where in the normal form the ground-colour interrupts the black portion.

116. **Diabrotica allardi.**

Testaceous, the head black; thorax transverse, without depressions; elytra testaceous, finely punctured, a broad transverse band at the base, a much narrower band below the middle, and a still smaller one near the apex, black.

Length $2\frac{3}{4}$ lines.

Head impunctate, black, the frontal tubercles very narrow; the clypeus perfectly straight in front, and with a central ridge; labrum flavous; antennæ nearly as long as the body, fuscous, the sixth, seventh, and eighth joints whitish, the third joint three times as long as the second; thorax transverse, the sides nearly straight, the anterior angles obliquely shaped and somewhat produced outwardly, the surface impunctate, without foveæ, but with a short oblique groove near the posterior angles; scutellum testaceous; elytra finely and closely punctured, with traces of longitudinal grooves, a broad transverse band at the base extending to the first third of their length, a narrower band below the middle and a still narrower one near the apex, black; underside testaceous, the tibiæ and tarsi fuscous.

Hab. PANAMA, Bugaba, Peña Blanca (*Champion*).

D. allardi possesses all the structural characters of the genus; but is distinguished from most of the species yet referred to it by its rather transversely-shaped thorax. The first elytral band is narrower at the suture than at the sides, and does not quite extend to the basal margin, where a narrow stripe of the ground-colour remains, and its posterior margin is obliquely cut; the second band is of half the width of the first, and is slightly rounded and narrowed at the suture; and the third band is placed near the apex, and is very narrow and slightly curved downwards at the outer ends; neither of the bands extend quite to the lateral margin.

117. **Diabrotica sex-plagiata.** (Tab. XXXI. figg. 14; 15, var.)

Diabrotica sexplagiata, Jac. P. Z. S. 1878, p. 151[1].

Var. Thorax without longitudinal lateral stripes; elytra yellowish-white, margined with black.

Hab. MEXICO, Teapa, Tuxtla (*Sallé*), Jalapa, Tapachula in Chiapas (*Höge*); BRITISH HONDURAS, R. Hondo, Belize (*Blancaneaux*); GUATEMALA, Zapote, San Gerónimo, Chacoj (*Champion*); NICARAGUA, Chontales (*Janson*); PANAMA[1], Bugaba, Volcan de Chiriqui, David (*Champion*).—COLOMBIA (*coll. Baly*).

In the type the whitish colour of the elytra is divided by narrow transverse black bands into six spots or patches (three on each); these spots or patches become more or less confluent in the varieties till the dividing dark transverse bands disappear altogether, and produce a uniformly coloured form in which the elytra are simply margined with black; the elytra themselves are closely rugose-punctate. The four anterior femora are generally striped with black above, and the apex of the posterior femora, and the posterior tibiæ entirely, of that colour. The locality "Peru" given by me[1] refers to a closely allied but distinct species, as I found upon a closer examination. Many examples.

We figure a typical specimen from Belize, and a variety from Tapachula.

118. **Diabrotica tetraspilota.**

Diabrotica tetraspilota, Baly, Trans. Ent. Soc. Lond. 3rd ser. ii. p. 351 [1].

Hab. Mexico [1], Misantla, Cerro de Plumas, Jalapa (*Höge*), Oaxaca, Cordova, Santecomapan (*Sallé*); British Honduras, R. Hondo, R. Sarstoon (*Blancaneaux*); Guatemala, Tamahu, Chacoj, Teleman, Panima in Vera Paz (*Champion*); Nicaragua, Chontales (*Janson*); Costa Rica, Volcan de Irazu (*Rogers*).

The fifty specimens of this large and easily recognizable species before me only differ amongst themselves in the ground-colour of the elytra being either reddish-fulvous or testaceous; each elytron being furnished with two large black spots. I am, however, unable to detect any transverse sulcation below the base of which Mr. Baly speaks in his diagnosis. The black colour of the terminal four joints of the antennæ seems to be a constant character.

119. **Diabrotica irregularis.** (Tab. XXXII. fig. 21.)

Fulvous, the head, the intermediate joints of the antennæ, and the breast black; thorax without depressions; elytra finely and closely punctured, a transverse band at the base, another at and a third below the middle, partly connected, as well as a lateral longitudinal stripe, black.

Length 3–3¼ lines.

Head black; clypeus with a strongly raised, rather broad, central ridge; antennæ with the basal joint fulvous, the following seven joints obscure fuscous or piceous, the others fulvous, the extreme apex of the terminal joint fuscous; thorax scarcely one half broader than long, somewhat convex, the surface entirely impunctate, without depressions; scutellum black; elytra with a narrow transverse black band (widened at the sides) at the base, and a smaller black band at and another below the middle, the two latter joined in the centre of the disc by a narrow stripe and at the sides connected with a longitudinal black stripe which commences at the second band and is abbreviated at a little distance before the apex; abdomen and legs fulvous, the tibiæ and tarsi black.

Hab. Guatemala, Purula (*Champion*).

In two specimens the elytral pattern is precisely similar, except that the markings in one instead of being black are fulvo-piceous; but it is probable that this insect is subject to variation in the shape of the elytral bands.

120. **Diabrotica bohemani.** (Tab. XXXII. fig. 13.)

Black, the apical joints of the antennæ white; thorax testaceous, obsoletely bi-impressed; elytra subremotely punctured, testaceous, a narrow transverse band at the base, the lateral and apical margins, and a transverse spot below the middle, black.

Length 3 lines.

Hab. Panama (*Boucard*).

Whether the single specimen before me represents the normally-coloured form of the present species or only a variety I am unable to say; but it is very probable that the design of the elytra is subject to variation. The antennæ have the third joint twice as long as the second; the apical four joints are yellowish-white, the apex of the terminal one black. The thorax is one half broader than long, and has two obsolete

depressions. The elytra have a longitudinal depression below the shoulders, and are rather distantly and strongly punctured; the transverse band at the basal margin has three short black longitudinal stripes attached to it (one at the shoulder, another at the suture, and a third between the others); the black marginal stripe is widened below the middle into a triangular spot, which nearly joins the smaller spot on the disc; and the black colour also extends rather broadly inwards at the apex. The abdomen is testaceous, the rest of the underside and legs black.

121. **Diabrotica inclusa.**

Flavous, the head and the breast black; the third joint of the antennæ elongate; thorax without impressions, impunctate; elytra extremely closely punctured, flavous, a transverse band at the base enclosing a small flavous spot, and another curved band near the apex, dark blue.

Length 3 lines.

Hab. Mexico, Jalapa (*Höge*).

The only species with which *D. inclusa* can be satisfactorily compared is *D. pulchella* of the first section; in *D. inclusa* the second joint of the antennæ (instead of being short as in *D. pulchella*) is nearly three times as long as the second, and the antennæ themselves are entirely flavous or fulvous. The thorax is about one half broader than long, rather constricted at the base; the surface somewhat convex, and entirely without depressions or punctures. The blue basal band of the elytra does not quite reach the lateral margin and encloses a small flavous spot (probably this spot is sometimes absent); the posterior band is narrower, slightly curved and pointed at its outer end, and does not extend to either the sutural or lateral margins. The palpi are flavous.

122. **Diabrotica bicolor.** (Tab. XXXII. fig. 6.)

Black, the apical four joints of the antennæ white; thorax flavous, obsoletely bi-impressed; elytra finely punctured, the anterior half black, the posterior half yellowish-white.

Length 4 lines.

Head black; antennæ slender, the third joint nearly three times as long as the second, the terminal four joints almost white, the apex of the apical one black; thorax twice as broad as long, bright yellow, obsoletely impressed on either side, impunctate; scutellum black; elytra very finely punctured, with some traces of longitudinal raised lines, the anterior half deep black, this colour divided from the white posterior portion by a straight line; underside and legs black, the coxæ flavous.

Hab. Nicaragua, Chontales (*Belt*).

The curious coloration of *D. bicolor*, of which only a single specimen was obtained, distinguishes it at first sight from any other species of the genus.

123. **Diabrotica interrupto-fasciata.** (Tab. XXXI. fig. 13.)

Diabrotica interrupto-fasciata, Baly, Ann. & Mag. Nat. Hist. 5th ser. iii. p. 75 (1879[1]).

Hab. Mexico, Oaxaca[1], La Parada (*Sallé*).

The elytra are of a reddish-fulvous colour, finely rugose, and have three narrow

transverse black bands; the thorax is testaceous, with two small black spots. An example from La Parada is figured.

124. **Diabrotica jansoni.** (Tab. XXXI. fig. 20.)

Diabrotica jansoni, Jac. P. Z. S. 1878, p. 994[1].

Hab. NICARAGUA, Chontales (*Janson*[1], *Belt*).

This species probably ought to find its place in some other genus, as, on further examination, the tibiæ prove to be without spines. The insect is of large and robust shape; the elytra are fulvous, with the posterior portion dark blue, this colour sometimes not extending quite to the apex.

f. *Elytra testaceous, with small black spots.*

125. **Diabrotica femorata.** (Tab. XXXII. fig. 8.)

Black; thorax fulvous, without depressions; elytra finely punctured, fulvous, the suture below the base, and six spots (2 . 2 . 2) on each, black; abdomen and the base of all the femora fulvous.

Length 3 lines.

Head black, impunctate; antennæ nearly as long as the body, black, the three basal joints fulvous below, the third joint more than twice the length of the second; thorax subquadrate, scarcely broader than long, narrowly margined at the sides, the latter slightly rounded at the middle, the surface smooth, impunctate, and without depressions, bright fulvous; scutellum black; elytra finely and not very closely punctured, rather convex and a little widened posteriorly, slightly stained with reddish-fulvous, darker than the thorax, the anterior third of the sutural margin, a subquadrate spot at the shoulder, a small spot near the scutellum, two spots at the middle, placed transversely, and two others below the middle, black.

Hab. MEXICO, Las Peras (*Sallé*). A single specimen.

126. **Diabrotica v-nigrum.** (Tab. XXXII. fig. 18.)

Pale flavous, the head black, the antennæ fulvous; thorax without depressions; scutellum black; elytra very strongly and closely punctured, the suture narrowly, a Λ-shaped mark at the shoulder, and a somewhat similar mark below the middle, black.

Length 3 lines.

Head black, the labrum piceous, the mandibles obscure testaceous; antennæ fulvous, the third joint twice as long as the second, but distinctly shorter than the fourth; thorax twice as broad as long, pale flavous, impunctate, and without depressions; scutellum black; elytra very strongly punctured throughout, pale testaceous, the suture narrowly, a short stripe connected with a transverse spot near the shoulder, and another somewhat similar mark below the middle, black; under surface and the legs flavous.

Hab. MEXICO, Jalapa (*Höge*).

A single specimen. *D. v-nigrum* will be known amongst its allies by the strong punctuation, and the rather peculiar markings, of the elytra.

127. **Diabrotica septem-punctata.** (Tab. XXXI. fig. 23.)

Greenish-testaceous, the scutellum and the breast black; thorax with two foveæ, rugosely punctured; elytra closely rugose-punctate, each with seven small black spots (1 . 1 . 2 . 3).

Length 3–3½ lines.

Head with a deep fovea, the vertex with a few fine punctures; antennæ half the length of the body, entirely

pale fulvous, the third joint twice the length of the second; thorax about one half broader than long, closely and strongly rugose and punctured, with two deep foveæ on the disc, and an obsolete depression near the anterior and posterior margins; scutellum black; elytra rather convex and broadly ovate, sculptured like the thorax, each with a small spot at the shoulder, another near the scutellum, two about midway near the lateral margin (placed transversely), and three below the middle (two of which are situated near the suture and placed transversely, and the third a little lower down near the lateral margin), black; legs testaceous, the breast black.

Hab. Mexico, Las Peras (*Sallé*).

The rugose upper surface of the thorax and elytra and the position of the elytral spots will readily distinguish this species.

128. **Diabrotica mexicana.** (Tab. XXXI. fig. 22.)

Diabrotica mexicana, Harold, Coleopt. Hefte, xiii. p. 91 (1875) [1].
Diabrotica bisseptem-punctata, Sturm, Cat. 1843, p. 279 [2].

Hab. Mexico [1 2], Cuernavaca, Orizaba, Tlatingo (*Sallé*), Cordova (*Höge*); Guatemala, Sabo, Cerro Zunil, Volcan de Atitlan, Dueñas (*Champion*); Costa Rica (*Van Patten*).

The thorax of *D. mexicana* should be described as having three, not two, foveæ, as stated in the diagnosis [1]; the third fovea being placed between the larger discoidal depressions, but nearer to the base. The elytra are rugosely punctured, slightly shining, and each with seven (sometimes only six) small black spots (2 . 3 . 2). The thorax has always two spots placed in front of the foveæ. A specimen from Orizaba is figured.

129. **Diabrotica multipunctata.**

Diabrotica multipunctata, Jac. P. Z. S. 1878, p. 149 [1].

Hab. Mexico [1], Tepansacualco, Puebla, Guanajuato (*Sallé*), San Juan del Rio, Tupataro (*Höge*), Michoacan (*Flohr*).

In the elytral pattern this insect exactly resembles *D. mexicana*; the elytra, however, are less distinctly punctured and more shining, and have their sutural and lateral margins rufous; and an extra dark fulvous spot is generally placed near the lateral margin between the rows of spots. The thorax is of a darker fulvous tint than in *D. mexicana*; and the tibiæ and tarsi, as well as the upper edge of the femora, are black.

130. **Diabrotica quinque-punctata.**

Testaceous; thorax deeply transversely foveolate; scutellum black; elytra finely rugose-punctate, each with five black spots (1 . 2 . 2).

Length $2\frac{1}{2}$–3 lines.

Head impunctate; antennæ more than half the length of the body, the third joint more than twice the length of the second; thorax one half broader than long, with a deep transverse depression on each side confluent at the middle, impunctate; scutellum black; elytra finely rugose, with a small spot at the shoulder, two similar

spots placed transversely below the base, and two others below the middle, black; the first joint of the posterior tarsi as long as the following three joints united; claws bifid, the inner division rather short.

Hab. GUATEMALA, Capetillo, Dueñas (*Champion*).

131. **Diabrotica sexpunctata.** (Tab. XXX. fig. 19.)

Diabrotica sexpunctata, Jac. P. Z. S. 1878, p. 148[1].

Hab. COSTA RICA (*Van Patten*), Rio Sucio, Cache, Volcan de Irazu[1] (*Rogers*); PANAMA, Volcan de Chiriqui (*Champion*).

This species may be recognized by its large size; and by the elytra being reddish-fulvous in colour, and each with three small black spots; the antennæ and legs are flavous, and the underside black. In the original description[1] *D. sexpunctata* was compared with *D. tripunctata*, Oliv., by mistake; it should have been with *Aulacophora tripunctata*, an insect somewhat resembling *D. sexpunctata* in coloration.

132. **Diabrotica octo-signata.** (Tab. XXX. fig. 23, var.)

Diabrotica octosignata, Baly, Ann. & Mag. Nat. Hist. 5th ser. iii. p. 76 (1879[1]).

Var. Elytra with the suture, two spots at the base, and a transverse band below the middle, black.

Hab. MEXICO, Oaxaca[1], Cordova, Juquila, Guanajuato (*Sallé*); GUATEMALA (*Sallé*), Dueñas, Cerro Zunil, Panima, Sinanja (*Champion*).

Although at first sight the variety seems to represent another species, I am unable to find sufficient differences to treat it as such. In the type, the elytra are fulvous, with four small black spots placed transversely before and below the middle on each. In the variety these spots are larger, sometimes connected and with the posterior ones united into a more or less broad transverse band, the position of these spots and of the band being as in the type, and the suture from below the base to the apex also narrowly black; a specimen marked in this way, but otherwise agreeing with the typical form, is also before me, thus proving the variability of the species. The thorax and the elytra in the variety are rather more strongly punctured; but other differences seem to be absent.

A specimen in the Sallé collection is labelled *D. 8-punctata*, Sturm. We figure a specimen of the variety from Cerro Zunil.

g. *Elytra fulvous or testaceous.*

133. **Diabrotica subimpressa.**

Ovate, dilated, black; thorax fulvous, deeply bifoveolate; scutellum piceous; elytra flavous, finely punctured, transversely impressed at and below the middle, each with an elongate elevation near the apex; legs flavous.

Length $4\frac{1}{2}$ lines.

Head longer than broad, black, the vertex with a deep triangular depression, the clypeus with a central ridge; palpi flavous; antennæ fulvous (the terminal five joints wanting), the third joint more than twice the

length of the second; thorax twice as broad as long, reddish-fulvous, the surface with two deep impressions and a few fine punctures; elytra convex and dilated posteriorly, pale flavous, with a short transverse depression before and another immediately below the middle, each with an elongate elevation near the suture placed at a little distance from the apex, the entire disc covered with small piceous punctures; underside black, the legs flavous.

Hab. COSTA RICA (*Van Patten*), Volcan de Irazu (*Rogers*).

In one specimen there is an elongate piceous spot placed at the side of the elytral elevation; the female is probably devoid of the latter. When seen with the naked eye the elytra seem to be furnished with a narrow transverse raised band, on account of the depression in front and below the middle.

134. **Diabrotica sobrina.**

Ovate, dilated posteriorly, black, the head and the apical four joints of the antennæ fulvous; thorax transverse, bifoveolate, fulvous; elytra rather remotely punctured, fulvous, the apical margin black.

Length $3\frac{1}{2}$–4 lines.

Head impunctate, rather broad, the labrum, mandibles, and palpi black; antennæ not more than half the length of the body, the third joint twice the length of the second and equal to the fourth joint, the apical four joints fulvous, the others black, covered with yellow pubescence; thorax twice as broad as long, the surface nearly impunctate, with a small fovea on each side and a very indistinct one near the base; elytra strongly dilated posteriorly, broad, finely but not closely punctured, uniformly fulvous, shining, the extreme apical margin black; underside and legs black.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

135. **Diabrotica dilatata.**

Broadly ovate, dilated, black; thorax transverse, obsoletely depressed on each side; elytra widened posteriorly, fulvous or testaceous, finely and closely punctured.

Length $2\frac{1}{2}$ lines.

Head impunctate; the frontal elevations broadly trigonate, distinctly raised; clypeus with a distinct central ridge; antennæ about two thirds the length of the body, black, the intermediate joints slightly widened in the male, the third joint twice the length of the second but shorter than the fourth joint; thorax more than twice as broad as long, the sides very little rounded, the anterior angles somewhat thickened, the surface obsoletely depressed on each side and across the disc, impunctate; scutellum black; elytra convex and widened posteriorly, flavous or fulvous, their epipleuræ rather broad anteriorly; underside and the legs black; the posterior tibiæ with a very small spine; the first joint of the posterior tarsi as long as the following three joints together; claws fulvous, bifid.

Hab. MEXICO, Cordova, Teapa, Jalapa (*Höge*), Toxpam, Tuxtla (*Sallé*); GUATEMALA, Purula, Sabo, Senahu, San Juan in Vera Paz (*Champion*); COSTA RICA, Cache, Volcan de Irazu (*Rogers*); PANAMA, Volcan de Chiriqui, Peña Blanca (*Champion*).

The short, posteriorly dilated shape, the transverse thorax, and the slightly dilated antennæ in the male, scarcely agree with *Diabrotica*; nevertheless *D. dilatata* possesses all the essential characters of that genus, and may be recognized by its shape and coloration. Many specimens were obtained in Guatemala, two only in the State of Panama.

136. **Diabrotica uniformis.**

Broadly ovate, dilated, black; thorax transverse, obsoletely depressed, flavous; elytra finely punctured, testaceous or flavous.

Length 2 lines.

Hab. NICARAGUA, Chontales (*Janson*); PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).

It will not be necessary to give a detailed description of *D. uniformis*, as it agrees in everything, except as regards coloration, with *D. dilatata*. In shape it exactly resembles the last-named species; and the thorax also agrees in every particular, but is flavous instead of black. The large number of specimens (upwards of fifty) before me agreeing perfectly with one another, I am obliged to treat *D. uniformis* as a distinct species. With one exception, all the examples were obtained in the State of Panama; the insect, therefore, is of more southern distribution than *D. dilatata*. In some individuals the antennæ and legs are more or less stained with piceous or testaceous. *D. uniformis* is on the average smaller and less convex and dilated than the preceding species.

137. **Diabrotica corallina.** (Tab. XXXII. fig. 17.)

Black; thorax narrowly margined with fulvous, bifoveolate; elytra reddish-fulvous, closely punctured, and obsoletely rugose.

Length 2½ lines.

Head black; antennæ black, fulvous at the base, the third joint twice the length of the second, the fourth joint longer than the fifth; thorax twice as broad as long, the sides straight, narrowly margined with fulvous, the disc black, shining, with a few punctures, and a deep fovea on each side; scutellum black; elytra slightly widened towards the middle, narrowly margined, dark reddish-fulvous, closely punctured, the interstices slightly rugose on the anterior portion and nearly smooth towards the apex; underside and legs black.

Hab. MEXICO, Chiapas (*Sallé*). A single specimen.

Narrower and more parallel than the preceding species; the thorax black, narrowly margined with testaceous, and the elytra reddish in colour and closely punctured.

138. **Diabrotica luteola.**

Ovate, convex, widened posteriorly, black; head, antennæ (the apical joints excepted), femora, and thorax, pale fulvous; thorax without depressions; elytra fulvous, distinctly and subremotely punctured.

Length 3½ lines.

Head impunctate, entirely fulvous; antennæ scarcely half the length of the body, the apical three joints obscure fuscous, the rest fulvous, the third joint twice the length of the second; thorax nearly twice as broad as long, narrowed near the base, the surface impunctate, without depressions; scutellum fulvous; elytra rather strongly widened posteriorly, the apical portion deflexed, the sides narrowly margined, the surface not very closely but distinctly punctured; underside and the tibiæ and tarsi black, the femora fulvous.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

Only a single specimen, evidently a female, was obtained. *D. luteola* differs from *D. sobrina* in the colour of the antennæ and legs, and in the want of the thoracic impressions and the dark apical margin to the elytra.

h. *Elytra testaceous, with longitudinal black or blue stripes or posterior spots.*

139. **Diabrotica novem-maculata.**

Diabrotica novem-maculata, Jac. P. Z. S. 1878, p. 995 [1].

Hab. COSTA RICA [1], Volcan de Irazu, Rio Sucio (*Rogers*); PANAMA, Volcan de Chiriqui (*Champion*).

In the elytral design and general coloration *D. novem-maculata* closely resembles several species of the first section with short third joint to the antennæ, notably *D. fulvicornis* and *D. hybrida*. In *D. novem-maculata* the corresponding antennal joint is, however, nearly twice the length of the second; the elytral spots are thicker, the anterior sutural streak forming an elongate pointed triangle, and the outer spot below the middle, as well as the one placed at the shoulder, is elongate and of equal length.

140. **Diabrotica lateritia.** (Tab. XXXII. fig. 12.)

Flavous, the head, breast, and tibiæ black; thorax without depressions; elytra closely punctured, flavous, the suture, a discoidal and a lateral longitudinal stripe, and a spot at the shoulder, black.

Length 3 lines.

Head entirely black; the frontal tubercles very distinct; the vertex with a longitudinal groove; antennæ piceous, the basal three and the apical three joints fulvous; thorax subquadrate, slightly broader than long, the surface rather convex, without any traces of depressions, impunctate, flavous; scutellum black; elytra rather convex, very closely and distinctly punctured, a large subquadrate spot at the shoulder connected with the similarly-coloured narrow basal margin, a narrow lateral stripe from the middle to the apex, a shorter discoidal stripe, and the suture very narrowly, black.

Hab. GUATEMALA, Purula (*Champion*). A single specimen.

The short black stripe on the disc of each elytron commences in a line with the lateral stripe, but is only about half the length of the latter; the third joint of the antennæ is nearly three times as long as the second.

i. *Elytra metallic, unicolorous or margined with flavous.*

141. **Diabrotica flavifrons.** (Tab. XXXII. fig. 22.)

Black, the clypeus and the base of the femora flavous; thorax finely punctured, with two depressions; elytra metallic blue or purplish, closely punctured, the interstices obsoletely rugose.

Length 2 lines.

Of narrow elongate shape; the head bluish-black, opaque, with a narrow lightly-impressed central groove; the frontal tubercles and the clypeus flavous, the labrum black; antennæ slender, black, the third joint nearly three times as long as the second; thorax about one half broader than long, opaque, the surface finely and obsoletely punctured, black, with two closely approached depressions on the middle of the disc; scutellum black; elytra purplish-blue, finely and closely punctured, the interstices here and there obsoletely rugose; legs slender, the femora flavous at the base, the knees, tibiæ, and tarsi black.

Hab. MEXICO, Cordova (*Sallé*). A single specimen.

142. Diabrotica lætabilis.

Diabrotica lætabilis, Baly, Journ. Linn. Soc., Zool. xix. p. 257 [1].

Testaceous, the apical joints of the antennæ and the abdomen black; vertex of the head greenish-æneous; thorax bi-impressed, the sides with a black band; elytra metallic green, finely punctured, the sides with two costæ.

Length 1–1½ line.

Head impunctate, the vertex metallic green; the frontal tubercles strongly raised, trigonate, testaceous like the lower part of the face; labrum piceous; antennæ two thirds the length of the body, the basal joints more or less testaceous beneath, the others black, the third joint twice the length of the second; thorax transverse, distinctly narrowed at the base, the surface with two deep depressions, impunctate, the sides with a narrow longitudinal black or piceous band; scutellum broad, black; elytra metallic green, minutely granulate (when seen under a strong lens), finely but distinctly punctured towards the suture and much more deeply and strongly so at the sides, a slightly curved costa extending along the sides from the shoulder to below the middle, preceded within by a more indistinct one, the interspaces finely transversely rugose; legs testaceous, the abdomen black.

Hab. GUATEMALA, Cerro Zunil (*Champion*); PANAMA, Volcan de Chiriqui (*Champion*). —COLOMBIA [1].

I have given a fresh description of *D. lætabilis*, as there are several closely allied species before me which are not easy to separate. The description given by the author [1] in regard to the shape of the thorax, 'more than half again as long as broad,' should read the reverse.

143. Diabrotica mystica.

Black, the base of the antennæ and the legs testaceous, the vertex metallic green, the lower part of the head and the thorax testaceous; thorax with two depressions; elytra metallic green, the base swollen, the disc minutely punctured, the sides with two short costæ, the disc with some stiff hairs.

Length 1½ line.

Hab. MEXICO, Cordova, Tuxtla (*Sallé*); GUATEMALA, Sinanja, Chiacam, Cubilguitz (*Champion*).

Closely allied to *D. lætabilis*, but differing in the following particulars:—The thorax is devoid of the lateral piceous bands, and the elytra are more distinctly raised at the base, the punctuation is finer (especially between the costæ) and much more scattered, and the interspaces are not transversely wrinkled. As all the specimens before me agree with each other in the above particulars, I have no doubt they represent a distinct species.

144. Diabrotica semicærulea.

Fulvous, the base of the head, the antennæ, tibiæ, tarsi, and abdomen piceous or black; thorax with two deep depressions; elytra dark blue, finely punctured, the sides with two curved costæ, the disc with some stiff hairs.

Length 1–1½ line.

Hab. GUATEMALA, Paraiso, San Isidro, Zapote (*Champion*).

This insect is closely allied to *D. mystica* and *D. lætabilis*. From the former it differs

in the want of the black thoracic bands, and in the elytra being dark blue (not bright metallic green) in colour; from the latter it is separated by the colour, by the flat (not raised) basal portion of the elytra, and by the interspaces of the latter not being transversely wrinkled. The base of the head in all the specimens is piceous, not metallic green. The localities for *D. semicærulea* are all upon the Pacific, those for *D. mystica* upon the Atlantic, slope; *D. lætabilis* is more widely distributed.

145. **Diabrotica satellitia.**

Black; thorax testaceous, transversely impressed; elytra dark blue, finely punctured on the disc, more strongly so at the sides, the latter with a single straight costa from the shoulder to the middle, the basal portion flat.

Var. Thorax entirely black; femora testaceous at the base.

Length $1\frac{1}{2}$–2 lines.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

This species resembles *D. semicærulea* in coloration; but the head and antennæ are entirely black, the elytra have but a single straight (not curved) costa on each side, and the legs are black. These differences will be sufficient to distinguish *D. satellitia* from the three preceding species, from all of which it differs in its larger size and in the entirely black head and antennæ. Most of the specimens belong to the variety with an entirely black thorax, only two having the latter of a testaceous colour; as in the allied species, the surface of the thorax has two deep transverse depressions and is impunctate. The straight lateral costa of the elytra further separates the present insect from its congeners.

146. **Diabrotica nitidula.**

Ovate, widened posteriorly, black; thorax impunctate, with transverse depressions; elytra metallic blue, the base slightly convex, the disc finely semipunctate-striate.

Var. The head and thorax fulvous.

Length $1\frac{1}{2}$ line.

Head longer than broad, impunctate, the vertex minutely granulate; antennæ more than half the length of the body, rather robust, the third joint twice as long as the second; thorax twice as broad as long, the sides nearly straight, the surface extremely finely granulate, without punctures, transversely and rather strongly depressed on each side; scutellum black; elytra distinctly widened posteriorly, the base swollen and bounded by a distinct depression below, the punctuation fine and not very closely but rather regularly arranged in lines; the underside and legs black; the first joint of the posterior tarsi as long as the following three joints together.

Hab. GUATEMALA, Purula, Senahu (*Champion*); PANAMA, Volcan de Chiriqui (*Champion*).

Amongst the small species with metallic blue elytra *D. nitidula* may be known by the ovate and dilated general shape, and the raised basal portion of the elytra and their semipunctate-striate punctuation; the thorax is strongly transverse and distinctly transversely depressed. The variety was collected with the type at Purula; it does not differ in any way, except in the colour of the head and thorax.

147. **Diabrotica opacicollis.**

Black, the lower part of the head, thorax, and femora flavous; thorax finely punctured, with two impressions; elytra metallic green, very closely and distinctly punctured.

Var. Thorax blackish; elytra dark violet-blue.

Length 2–2½ lines.

Head æneous or greenish-black at the vertex, the lower part flavous; labrum black; antennæ black, the third joint twice as long as the second; thorax one half broader than long, the surface opaque, finely punctured, and impressed with two broad foveæ; scutellum piceous; elytra metallic green, very distinctly and closely punctured; underside of the thorax, the breast, and the femora, flavous; abdomen, tibiæ, and tarsi, black.

Hab. MEXICO, Toxpam, Cordova (*Sallé*).

The punctured and opaque thorax and the very closely and rather strongly punctured elytra separate this species from *D. lætabilis*; the variety does not differ in any way, except in colour.

148. **Diabrotica lineato-punctata.**

Head, the intermediate joints of the antennæ, and the breast, black; thorax transverse, flavous, bifoveolate; elytra metallic blue, strongly semipunctate-striate; legs flavous.

Var. Antennæ with the basal joints black; underside entirely flavous.

Length 2½ lines.

Head impunctate, with a deep longitudinal fovea between the eyes; palpi flavous; antennæ black, the three basal and the three apical joints flavous, the third joint twice as long as the second; thorax more than twice as broad as long, flavous, impunctate, deeply bifoveolate; scutellum black; elytra rather broadly ovate, slightly dilated posteriorly, the base somewhat swollen, the punctuation strong and arranged in rather regular closely approached rows, but becoming finer and more irregular towards the apex; legs and abdomen flavous, the breast black.

Hab. MEXICO, Tuxtla (*Sallé*); GUATEMALA, Zapote (*Champion*). Three specimens.

Of rather convex and posteriorly dilated shape, and principally distinguished by the punctuation of the elytra being arranged in nearly regular rows. The variety was collected at Tuxtla.

149. **Diabrotica distinguenda.** (Tab. XXXII. fig. 5.)

Ovate, subdepressed, flavous, the antennæ piceous, the head rufous; thorax rufous, margined with flavous, deeply bifoveolate; elytra dark greenish, rugosely punctured, the lateral and apical margins flavous.

Length 3 lines.

Head not longer than broad, with the usual fovea on the vertex, impunctate, rufous; antennæ piceous, the basal joint fulvous, the third joint more than twice the length of the second; thorax transverse, more than twice as broad as long, the anterior angles slightly produced and thickened, the posterior angles somewhat distinctly pointed outwards, the disc impunctate, rufous, foveolate on each side, the anterior and posterior margins narrowly flavous; scutellum black; elytra rather flattened, closely rugose-punctate, greenish-black, margined at the sides and apices with flavous; tibiæ and tarsi and the upper edge of the femora black, the femora beneath and the underside flavous.

Hab. MEXICO (*Sallé*). A single specimen.

The colour of the thorax in connection with the rugosely-punctured elytra separates *D. distinguenda* from the preceding species.

150. **Diabrotica subænea.**

Flavous, the head æneous at the vertex; thorax finely granulate, depressed at the sides, the disc spotted with æneous; elytra bronze-coloured, closely punctured, and obsoletely rugose.

Var. Elytra testaceous, each with a longitudinal æneous discoidal band.

Length 1½–2 lines.

Head finely granulate, with a few fine punctures, greenish-æneous at the vertex, testaceous at the lower portion; antennæ nearly as long as the body, obscure fulvous or fuscous, the basal joints more or less testaceous, the third joint more than twice the length of the second; thorax one half broader than long in the male, twice as broad in the female, the sides with a more or less distinct fovea, the surface finely granulate and punctured (more distinctly so in the female), testaceous, with a longitudinal central brownish or greenish-æneous band not quite extending to either margin; scutellum black; elytra slightly widened posteriorly, entirely bronze-coloured, closely punctured, the surface with some obscure and irregular depressions and here and there transversely wrinkled; legs and the underside testaceous.

Hab. Costa Rica, Volcan de Irazu (*Rogers*); Panama, Volcan de Chiriqui (*Champion*).

D. subænea differs from *D. mystica* and *D. semicærulea* principally in the thorax being finely granulate and with a central longitudinal band. Costa Rican specimens only differ from those from Chiriqui in the colour of the elytra; in the former the elytra may be described as greenish-æneous, margined with testaceous.

151. **Diabrotica smaragdina.** (Tab. XXXII. fig. 1.)

Black, the antennæ (the intermediate joints excepted), thorax, and legs flavous; elytra bright metallic green, with several deep impressions, the lateral and apical margins and the shoulders flavous.

Length 2–2½ lines.

Head black, impunctate; antennæ long and slender, flavous, joints 6–8 black, the third joint twice as long as the second; thorax narrowly transverse, more than twice as broad as long, the disc deeply transversely depressed; scutellum black; elytra with a deep depression below the base and another (divided by a short longitudinal costa) behind the middle, the disc finely and irregularly punctured, the apices impunctate, the surface of a bright emerald-green colour and very shining, the lateral margins narrowly and the apices more broadly flavous, the flavous colour interrupted towards the base by a short green streak extending upwards from the sides; underside black, the legs flavous.

Hab. Panama, Volcan de Chiriqui (*Champion*).

D. smaragdina may be known by the bright metallic green colour of the elytra, and by the deep depressions on the latter being distinctly visible to the naked eye; it is a species of narrow and parallel shape.

152. **Diabrotica gemmula.** (Tab. XXXII. fig. 7.)

Ovate, convex, strongly dilated, metallic green; head and thorax fulvous, the latter bi-impressed; elytra closely punctured, with two impressions, metallic green; antennæ and legs flavous.

Length 4½ lines.

Head impunctate; antennæ more than half the length of the body, entirely flavous, the third joint twice the length of the second; thorax about one half broader than long, impunctate, reddish-fulvous, the disc with a transverse depression on each side, the sides straight at the base, rounded in front; scutellum fulvous; elytra strongly dilated and convex, greatly deflexed at the posterior portion, with a depression below the base and another at the sides below the shoulders, very closely and distinctly punctured, dark metallic green; underside dark metallic green, the legs flavous.

Hab. Costa Rica (*Van Patten*).

A species of very robust and dilated shape; the specimens before me are evidently all females.

153. **Diabrotica semipurpurea.**

Ovate, slightly widened, black; head and thorax testaceous, the latter deeply transversely grooved; elytra purplish-blue, finely punctured; legs fulvous or piceous.

Length $2\frac{1}{2}$ lines.

Head rather deeply foveolate at the vertex, impunctate, fulvous; the frontal tubercles small but distinct; antennæ black, two thirds the length of the body, the third joint twice the length of the second; thorax transverse, rather more than twice as broad as long, the disc with a deep transverse groove (slightly interrupted in the middle) on each side; scutellum fulvous or piceous; elytra slightly widened posteriorly, finely and rather closely punctured, metallic purplish-blue; breast and abdomen black, the legs fulvous or piceous.

Hab. Guatemala, Las Mercedes, Zapote (*Champion*).

Several examples. The peculiar tint of the elytra can only be compared to the bloom on a fresh plum or blue grape, and as it is present in all the specimens I have no doubt that this colour is the normal one.

154. **Diabrotica nigriceps.** (Tab. XXXI. fig 18.)

Diabrotica nigriceps, Baly, Ann. & Mag. Nat. Hist. 5th ser. iii. p. 75 (1879)[1].

Hab. ? Guatemala[1]; Panama, Bugaba, Volcan de Chiriqui, David, Caldera, Tolé (*Champion*).

This handsome species is of a reddish-purple colour (with the exception of the extreme apices of the elytra, which are flavous) when fresh; it is also distinguished by the transverse depressions of the elytra, one of these depressions being placed below the base, the other below the middle, and the latter bounded laterally by a strongly developed and curved elevated ridge which extends upwards to the humeral callus. A very large number of specimens were obtained by Mr. Champion in various parts of the State of Panama; the insect is found in the virgin forest. This is one of several species described by Mr. Baly of which the locality seems very doubtful; we have not found *D. nigriceps* in any of the very large collections sent to us from Guatemala. An example from the Volcan de Chiriqui is figured.

j. *Elytra flavous, with longitudinal metallic bands.*

155. **Diabrotica marginella.** (Tab. XXXI. fig. 12.)

Diabrotica marginella, Jac. P. Z. S. 1879, p. 789[1].

Hab. Costa Rica (*Van Patten*), Volcan de Irazu, Rio Sucio (*Rogers*); Panama, Volcan de Chiriqui (*Champion*).

The metallic green bands of the elytra occupy in some specimens almost the entire disc, leaving only the sutural and lateral margins together with the apices whitish-testaceous; the two black thoracic spots are constant in the numerous specimens before me.

A common insect on the slope of the Volcan de Chiriqui, and found chiefly on the margins of the forest at an elevation of about 3000 feet; a Chiriqui specimen is figured.

k. *Elytra green, the apices sometimes flavous.*

156. **Diabrotica curtisi.** (Tab. XXXI. fig. 10.)

Diabrotica curtisii, Baly, Trans. Ent. Soc. Lond. 1886, p. 449[1].

Hab. Mexico[1], Cordova (*Sallé*), Jalapa (*Höge*).

In the males before me the head is only black at the vertex, the entire lower portion being flavous; in the female it is entirely black. The female is devoid of the subapical elytral tubercle and excavation.

157. **Diabrotica longitarsis.** (Tab. XXXI. fig. 11.)

Flavous, the head black; thorax trifoveolate, flavous; elytra rugose, black, each with seven or eight longitudinal costæ.

Var. Elytra with the lateral margin narrowly flavous.

Length $2\frac{1}{2}$–3 lines.

Head impunctate, deeply foveolate between the antennæ, very shining, black; clypeus with a distinct central ridge, its lower portion opaque and rugose; antennæ flavous, the sixth, seventh, and eighth joints, and also the apical one, more or less fuscous, the third joint twice the length of the second, the terminal joints thickened and much stouter in the male than in the female; thorax very short and transverse, more than twice as broad as long, the sides rather strongly narrowed at the base, the disc impunctate, flavous, very shining, with a small basal and two larger central foveæ; scutellum black; elytra closely rugose, each with seven or eight narrow longitudinal costæ commencing at the base but not quite extending to the apex, the male with a longitudinal subsutural tubercle near the apex; underside and legs flavous; the first joint of the posterior tarsi longer than the following three joints together.

Hab. Guatemala, San Isidro, Zapote, Cahabon (*Champion*).

Closely allied to the preceding species, and also to *D. coryphæa*, Baly, and *D. viridipennis*, Jac. From *D. curtisi* it is separated by the elytra being black and differently sculptured in the male; from *D. coryphæa* by the entirely flavous colour of the undersurface and the much longer first joint of the posterior tarsi, and also by the tubercle near the apex of the elytra in the male. *D. viridipennis* has green elytra and the first joint of the posterior tarsi shorter. *D. flavo-limbata*, Erichs. (=*D. balyi*, Jac.), may be known from *D. longitarsis* by the black thorax and the less numerous elytral costæ. The single specimen of the variety before me only differs from the type in having the elytral margin flavous. An example from San Isidro is figured.

1. *Elytra fulvous or testaceous, with lateral or apical piceous markings.*

158. **Diabrotica fusco-marginata.** (Tab. XXXI. fig. 19.)

Diabrotica fusco-marginata, Jac. P. Z. S. 1878, p. 149[1].

Hab. Costa Rica[1], Rio Sucio, Volcan de Irazu (*Rogers*).

Easily known by the thorax being piceous, margined with testaceous, and the elytra dark fulvous, with a lateral longitudinal piceous stripe.

159. **Diabrotica waterhousei.** (Tab. XXX. fig. 24.)

Diabrotica waterhousei, Jac. P. Z. S. 1878, p. 993[1].

Hab. Costa Rica, Cache[1] (*Rogers*).

The elytra are testaceous, with a distinct narrow black basal margin and a broader piceous band (sometimes indistinct) at the apex. In general shape and colour this insect greatly resembles certain varieties of *Cerotoma denticornis*, Oliv., from which the open anterior coxal cavities distinguish it.

160. **Diabrotica maculata.** (Tab. XXXII. fig. 11.)

Head and the breast black; thorax rufous, trifoveolate, finely punctured; elytra fulvous, a broad lateral stripe, the suture (widened at and beyond the middle), and a spot below the centre of each, black; abdomen and the femora fulvous.

Length 4 lines.

Head black, impunctate; palpi flavous; antennæ black, the basal joint piceous, the ninth joint flavous (the rest broken off), the third joint twice as long as the second; thorax twice as broad as long, dark reddish, shining, the disc remotely and finely punctured and with three small foveæ placed triangularly; scutellum rufous; elytra widened towards the middle, strongly but not very closely punctured, flavous, opaque, the suture narrowly black, the black widening below the base into an oblique spot extending upwards and below the middle into a lozenge-shaped mark, a broad black band of irregular shape extending from the shoulder to beyond the middle, and a small spot below the middle between this band and the suture; tibiæ and tarsi piceous.

Hab. Costa Rica (*Van Patten*). A single specimen.

The following species belonging to Sect. 2 have been accidentally omitted:—

161. **Diabrotica nigropicta.**

Testaceous, the antennæ, tibiæ, and tarsi black; thorax deeply bifoveolate; elytra strongly semipunctate-striate, the sides with two costæ, a spot at the shoulder, another below the middle, and a sutural spot below the base, black.

Length 2 lines.

Head impunctate, the extreme base black, the rest pale fulvous; antennæ two thirds the length of the body, black, the basal and the apical two joints fulvous below, the third joint twice as long as the second; thorax twice as broad as long, impunctate, the disc with two deep oblique depressions; scutellum black; elytra flavous, the sides with two slightly curved costæ from the shoulder to the middle, the rest of the

surface distinctly and semiregularly punctured, each with a black spot at the shoulder, a slightly larger one below the middle, and another spot common to both placed at the suture below the scutellum; underside and legs testaceous, the tibiæ and tarsi black.

Hab. NICARAGUA, Chontales (*Janson*).

A single example. *D. nigropicta* should follow *D. figurata* in the arrangement here adopted; it is distinguished from its allies by the five elytral spots and their position.

162. **Diabrotica complicata.**

Ovate, subdepressed, black below; head and antennæ obscure piceous; thorax testaceous, bi-impressed; elytra very finely punctured, testaceous, a broad longitudinal band of irregular shape from the base to the middle, and a broad transverse band near the apex, black; legs fulvous, spotted with black.

Var. The anterior band of the elytra reduced to a spot.

Length 2–2¼ lines.

Head black at the vertex, the sides of the clypeus more or less testaceous; antennæ half the length of the body, obscure fulvous or pale piceous, the third joint twice as long as the second; thorax transverse, impunctate, the disc with two foveæ; scutellum piceous, its apex broadly rounded; elytra depressed, rather widened posteriorly, very minutely and not closely punctured, the posterior portion nearly impunctate, testaceous, with a broad longitudinal black band (narrowed at its middle and irregularly shaped) extending from the base to the middle of the disc and followed at a short distance by a broader and more regular transverse band not quite extending to the lateral margin; the femora have a piceous spot at the middle, and the tibiæ a spot at the base, the latter also being stained with piceous to a greater extent near their apex.

Hab. MEXICO, Jalapa (*Höge*).

Allied to *D. figurata* and *D. dorso-signata*, but differing in the pattern of the elytra and other particulars; the anterior elytral spot is very variable in shape and size and occupies in some specimens the greater part of the disc.

163. **Diabrotica apicalis.**

Diabrotica apicalis, Baly, Trans. Ent. Soc. Lond. 1886, p. 444 [1].

Hab. GUATEMALA [1].

164. **Diabrotica nigrocincta.**

Diabrotica nigrocincta, Baly, Trans. Ent. Soc. Lond. 1886, p. 451 [1].

Hab. MEXICO, Teapa (*Pilate* [1]).

In speaking of the antennæ, Mr. Baly describes the second joint as "more than half the length of the third": this is evidently a mistake and should be reversed, as the third joint is never shorter than the second in *Diabrotica*.

MICROBROTICA.

Body oblong; antennæ slender, filiform, the first joint elongate and the longest, the second not very short; thorax not broader than long, strongly narrowed at the base; elytral epipleuræ continued below the middle; tibiæ unarmed; the first joint of the posterior tarsi as long as the following two joints together; claws bifid; the anterior coxal cavities open.

Microbrotica is principally distinguished from *Diabrotica*, which it resembles in

general shape, by the unusually long basal joint of the antennæ, and the long and strongly narrowed thorax; moreover, the tibiæ do not appear to be armed with a spine at the apex as in *Diabrotica*. Although there is only a single specimen before me, the characters pointed out are so different from those of the other known forms inhabiting our region that I have no hesitation in establishing a genus for its reception.

1. **Microbrotica subglabrata.** (Tab. XXXIII. fig. 25.)

Testaceous, the antennæ (the first joint excepted), the intermediate and posterior tibiæ and tarsi black; thorax impunctate; elytra scarcely visibly punctured, the sides obsoletely costate below the shoulders.

Length $1\frac{1}{2}$ line.

Head rather broader than long, impunctate; the eyes prominent and rounded; the frontal tubercles distinct, trigonate; the clypeus broad, triangular, its apex extending upwards between the antennæ, its anterior margin slightly concave; antennæ as long as the body, the basal joint testaceous, its apex black, the third joint one half longer than the second, the apical two joints obscure fulvous, the rest black; thorax long, the sides greatly narrowed at the base, the anterior and posterior margins straight, the surface with two shallow discoidal depressions (visible only in certain lights), rather strongly deflexed at the sides, entirely impunctate; scutellum triangular; elytra with a few minute punctures (only visible under a strong lens), testaceous and shining like the rest of the surface, the sides from the shoulders to below the middle with a single ridge; the underside and legs testaceous, the anterior tibiæ with a piceous upper edge, the other tibiæ black.

Hab. PANAMA, David in Chiriqui (*Champion*).

A single specimen.

PHÆSTUS.

Elongate; head broad, not constricted behind; eyes small; antennæ filiform, the terminal joints thin, the third joint about three times longer than the second; thorax transverse, the sides straight, the surface transversely sulcate; elytra very finely rugose, their epipleuræ almost obsolete; tibiæ unarmed; the first joint of the posterior tarsi as long as the following two joints together; claws bifid; anterior coxal cavities open.

The curious insect for which I propose this new genus is distinguished by the head being broad and not constricted posteriorly, the thorax transversely sulcate, and the elytral epipleuræ almost obsolete; it somewhat resembles in general appearance the genus *Dircema*. The epipleuræ of the elytra are entirely absent from the basal portion, and extremely narrow from the middle downwards. The distinctly bifid claws separate *Phæstus* from *Phyllobrotica*. In the slightly sulcate tibiæ and general appearance the genus approaches *Cœlomera*; for the present, however, I prefer to place it near *Microbrotica*.

1. **Phæstus chiriquensis.** (Tab. XXXIII. fig. 1.)

Testaceous, the antennæ and the legs black; thorax impunctate; elytra bluish-black, very finely rugose throughout.

Length 3–$3\frac{1}{2}$ lines.

Head with a fine central longitudinal groove, the vertex swollen; the frontal tubercles trigonate and distinct; clypeus narrowly transverse, swollen; labrum and palpi piceous; antennæ two thirds the length of the

body, tapering towards the apex, the third and following joints nearly equal in length; thorax about two and a half times broader than long, the sides straight, the angles obtuse, the disc transversely depressed at the middle, shining, testaceous, not visibly punctured; scutellum broad, nearly subquadrate, its apex broadly truncate; elytra very dark bluish-black, opaque, extremely finely rugose.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

*** *Tibiæ mucronate; claws bifid.*

TRIARIUS.

Body elongate; antennæ filiform, the second and third joints short and nearly equal; thorax transversely subquadrate, without depression; elytra irregularly punctured, their epipleuræ very narrow and visible at the base only; tibiæ armed with a spine; the first joint of the posterior tarsi as long as the following two joints together; claws bifid, the inner division rather short; anterior coxal cavities open.

The almost invisible elytral epipleuræ place *Triarius* near *Phyllobrotica* and *Phyllechthrus*, from both of which the armed tibiæ and bifid claws separate it. The spine at the apex of the posterior tibiæ is long and very distinct.

I place a single species from Northern Mexico in this genus.

1. **Triarius mexicanus.**

Testaceous, the head, the basal three joints of the antennæ, the thorax, and legs fulvous; elytra scarcely visibly punctured, testaceous; breast black.

Length 2–3 lines.

Head not visibly punctured; the frontal tubercles transversely trigonate; clypeus narrowly transverse; antennæ black, the first three joints fulvous, the third joint scarcely longer than the second; thorax transverse, about one half broader than long, narrowed towards the base, the sides nearly straight, the surface not visibly punctured; scutellum black or piceous; elytra extremely finely and closely punctured, the rest of the surface (when seen under a very strong lens) very finely granulate and slightly rugose; legs robust; all the tibiæ armed with a spine, the spine long and very distinct on the posterior pair; the last abdominal segment in the male truncate in the middle, deeply sinuate at the sides.

Hab. MEXICO, Northern Sonora (*Morrison*).

**** *Tibiæ mucronate; claws appendiculate.*

NEOBROTICA.

Body elongate; antennæ filiform, the third joint generally long and slender; thorax subquadrate, more or less deeply transversely sulcate, the sulcation not extending to the sides; legs slender; tibiæ mucronate; the first joint of the posterior tarsi as long as the following three joints together; claws appendiculate; the anterior coxal cavities open.

Neobrotica has entirely the appearance, and in many instances the elytral pattern, of *Diabrotica*. It might be easily mistaken for that genus, unless the claws are examined, these being appendiculate in *Neobrotica* (instead of bifid as in *Diabrotica*); with this character a deeply sulcate thorax is generally combined. Several species described here offer a striking instance of so-called "mimicry" in regard to the colour and markings of the elytra (and indeed of the antennæ also), and in this respect agree in every particular with some forms of *Diabrotica*. As I have in several cases both sexes

before me, there can be no question of sexual differences in regard to the structure of the claws, &c. The genus will no doubt include some species at present referred to *Diabrotica* and *Cerotoma*.

1. Neobrotica variabilis.

Flavous, the head, the intermediate joints of the antennæ, and the breast black; elytra very closely punctured, a subquadrate mark at the base, and a slightly curved transverse band below the middle black.

Var. The basal mark of the elytra separated into spots, the tibiæ and tarsi flavous.

Length 3 lines.

Head black, impunctate; the clypeus with an acute central ridge; antennæ half the length of the body, the basal four and the terminal joints flavous, the other joints black or fuscous, the extreme apex of the last joint black; thorax one half broader than long, flavous, impunctate, deeply transversely sulcate; scutellum piceous or black; elytra extremely closely and distinctly punctured, a subquadrate mark at the base (the interior of which remains of the ground-colour) extending to near the middle, and a narrow transverse band (in one specimen semilunate in shape) below the middle, black.

Hab. Mexico, Jalapa (*Höge*).

N. variabilis resembles some species of *Diabrotica* (*D. adelpha*, *D. annularis*, &c.). In one specimen the posterior band of the elytra is thicker and of a semilunate shape, in the other it is more transverse; the first named has the anterior portion of the basal mark broken up into three spots (two humeral and one scutellar), and its posterior portion into four transversely placed spots (two on each elytron); other differences I cannot find.

2. Neobrotica ornata.

Flavous, the head and the breast black; thorax impunctate, deeply transversely sulcate; elytra finely punctured, a ring-shaped mark at the base, and another near the apex of each, dark blue.

Var. The elytral markings connected at the sides; the tibiæ and tarsi fuscous.

Length 2–3 lines.

Head entirely black, or with the lower portion obscure fulvous; antennæ flavous, the intermediate joints slightly darker, the third joint twice (in one specimen nearly three times) as long as the second; thorax deeply transversely sulcate, impunctate, flavous; elytra finely but not very closely punctured, with slight traces of longitudinal sulcations, each with a blue ring at the base, and another near the apex; legs and the underside flavous, the breast black; the anterior tibiæ and the first joint of the anterior tarsi dilated in the male.

Hab. Mexico, Tuxtla, Teapa (*Sallé*), Cordova, Tapachula in Chiapas (*Höge*).

N. ornata exactly resembles in the general colour and pattern of the elytra *Diabrotica biannularis* and several allied species, from which the deep sinuate groove of the thorax and the appendiculate claws distinguish it. The head is generally piceous or black, but sometimes the vertex is of that colour only; the antennæ in some specimens have the intermediate joints darkened, in others they are entirely flavous. The elytra are very finely granulate (when seen under a strong lens), and the second ring-shaped mark is sometimes open behind. In a single example from Teapa the elytral blue rings are connected at the sides by a longitudinal stripe, and the tibiæ are piceous as well as the intermediate joints of the antennæ; but as I am unable to

detect any other mark of distinction, I treat this specimen as a variety of the present species. *N. ornata* seems to vary in one or more respects in series of specimens obtained at the same localities. The dilated anterior tibiæ and tarsi in the male insect is another distinctive character of this species.

3. Neobrotica punctatissima.

Flavous, the base of the head black, the lower part of the head, the antennæ, and the thorax fulvous, the latter bifoveolate; elytra closely and strongly punctured, a ring-shaped mark at the base, and another below the middle, open behind, dark blue.
Length 2–3 lines.

Hab. Mexico, Acapulco (*Höge*).

In this species the thorax, instead of having a deep transverse groove as usual in *Neobrotica*, has two deep round foveæ at the sides, these foveæ, when seen in certain lights, assuming an oblique shape. *N. punctatissima* resembles in general coloration and elytral pattern *N. ornata*, but differs in the thoracic impressions and the very closely and deeply punctured elytra; the blue ring at the base of the latter is larger than in *N. ornata*, and its posterior edge is straight; and the blue mark below the middle is lunate in shape, and open behind.

4. Neobrotica imitans.

Fulvous, the head and breast black; thorax deeply sulcate; elytra very closely and distinctly punctured, fulvous, two elongate spots at the base, two others below the middle, and the suture below the scutellum, black.
Length $2\frac{1}{2}$–3 lines.

Hab. Costa Rica (*Van Patten*).

N. imitans almost exactly resembles *Diabrotica* 9-*maculata*, Jac., and several other closely allied species, in the pattern of the elytra. The elytra may almost be described as "rugosely punctured;" of the spots or short stripes, the longest is placed at the shoulder; the other stripes are— a short one near the suture below the base, another below the scutellum at the sutural margin, and two others near the apex, of which the slightly curved outer one is the longest. The thorax is transverse, with the usual deep sulcation.

5. Neobrotica cæruleo-lineata.

Testaceous; thorax deeply transversely grooved; elytra closely punctured, obsoletely longitudinally sulcate, a longitudinal stripe at the shoulder, another near the apex, two small spots on the disc, and the suture anteriorly, metallic blue.
Var. The intermediate joints of the antennæ, the vertex, the breast, and the tibiæ more or less piceous.
Length 3–$3\frac{1}{2}$ lines.

Hab. Mexico, Tepansacualco (*Sallé*), Teapa, Tapachula (*Höge*); Guatemala, San Isidro (*Champion*).

N. cæruleo-lineata resembles *Diabrotica fulvicornis*, Jac., and several other closely

allied species. The head generally has the vertex, as well as the labrum, piceous; the antennæ have the third and fourth joints of equal length; and the thorax is impunctate. The elytra are closely and finely punctured, and have traces of longitudinal sulcations; the blue spots and lines vary slightly, and the short sutural anterior stripe is sometimes only indicated, while the line at the shoulder is, in one instance, broken up into two spots; the two subsutural spots are placed in a line before and below the middle. From *N. imitans* the present insect is distinguished by the finely punctured (not semi-rugose) elytra; the markings are more slender, the outer ones being still more elongate and of a lighter blue colour; the interstices between the punctures are obsoletely sulcate, which is not the case in *N. imitans*.

6. **Neobrotica linigera.**

Pale fulvous or testaceous, the head and breast black; thorax bifoveolate; elytra closely punctured, testaceous, a short curved stripe at the shoulder, another near the suture at the base, and two short narrow streaks, placed transversely below the middle, bluish-black.

Length 3–4 lines.

Head impunctate, black; antennæ fulvous, the third joint nearly three times the length of the second and as long as the fourth joint; thorax one half broader than long, impunctate, with a deep fovea on each side; elytra finely and closely punctured, the punctuation arranged somewhat in lines, the two longitudinal stripes at the base abbreviated before the middle, of curved shape, and forming the sides of a ring which is open above and below, the spots below the middle shorter (but as slender as the others), the outer one placed slightly lower than the spot near the suture.

Hab. PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).

This species also is closely allied to *N. cæruleo-lineata* and *N. imitans*, but differing from both in the absence of the sutural anterior stripe and in the shape of the elytral markings, of which those placed anteriorly are curved and inclined to each other, although open at both ends; the spots placed below the middle are, on the contrary, nearly straight; the punctures of the elytra are arranged in close and semiregular lines.

Ten specimens.

7. **Neobrotica semicostata.** (Tab. XXXIII. fig. 15.)

Testaceous; head and thorax impunctate; elytra strongly and closely semipunctate-striate, the interstices longitudinally costate, the disc obscure greenish.

Length 3 lines.

Hab. MEXICO, Panistlahuaca (*Sallé*).

The single specimen contained in the Sallé collection is of a uniformly pale testaceous colour, the disc of the elytra alone being slightly stained with greenish. In this species the elytra are finely and closely costate throughout, the punctuation of the interspaces being strong, deep, and simple, frequently geminate. Except in the elytral sculpture, *N. semicostata* does not differ from its allies.

8. Neobrotica oberthüri.

Diabrotica oberthüri, Baly, Trans. Ent. Soc. Lond. 1886, p. 452 [1].

Hab. Guatemala [1], Capetillo (*Champion*); Costa Rica (*coll. Jacoby*).

N. oberthüri so closely resembles *Diabrotica nigro-lineata*, Jac., in the elytral pattern and general coloration that I at first mistook it for, and indeed (*ante*, p. 523) quoted it as a synonym of, that species. I have since discovered, accidentally, and in this I am confirmed by Mr. Baly, that *D. oberthüri* must be placed in *Neobrotica*, on account of the different structure of the antennæ (in which the third and fourth joints are equal), the deep transverse groove of the thorax, and the appendiculate claws. The discoidal subsutural stripe on each elytron is sometimes interrupted in the middle.

9. Neobrotica pallescens.

Ovate, dilated, pale fulvous or testaceous, the head, the intermediate joints of the antennæ, and the tibiæ and tarsi black; thorax transversely grooved; elytra finely punctured, with traces of longitudinal costæ.

Length $2\frac{1}{2}$ lines.

Head entirely black; antennæ half the length of the body, the first two and the last three joints testaceous, the apex of the terminal joint black, the third joint more than double the length of the second; thorax twice as broad as long, the disc with a deep transverse depression not extending to the sides, impunctate, of a more reddish tint than the elytra; elytra widened posteriorly, closely punctured, the interstices obsoletely longitudinally costate and slightly transversely wrinkled; tibiæ and tarsi black.

Hab. British Honduras, R. Hondo (*Blancaneaux*).

The entire absence of any elytral markings together with the colour of the antennæ and tibiæ distinguish *N. pallescens*.

10. Neobrotica cæruleo-fasciata.

Elongate, subparallel, pale fulvous, the head and breast black; thorax deeply transversely grooved; elytra finely punctured, a transverse band at the base, and a narrower spot or band below the middle metallic blue.

♀?. Elytra with narrow longitudinal costæ.

Length $2\frac{1}{2}$–$3\frac{1}{2}$ lines.

Head impunctate, black; eyes large; antennæ pale fulvous, the intermediate joints slightly darker, the third joint double the length of the second; thorax one half broader than long, impunctate, the disc with a deep transverse depression not extending to the sides; scutellum black; elytra very closely punctured, fulvous, the basal transverse band of regular shape and occupying the first third of the entire length, the second band slightly curved (not quite touching the sutural or lateral margins and placed below the middle), both of a dark blue or greenish colour.

Hab. Panama, Bugaba, Volcan de Chiriqui, Caldera, Tolé (*Champion*).

N. cæruleo-fasciata closely resembles *Diabrotica godmani* in the colour and pattern of the elytra, but differs greatly in the long third joint of the antennæ and the deep transverse thoracic groove. I am, however, unable to say with certainty whether all the specimens before me must be regarded as one and the same species, as in some examples the posterior elytral band is represented by a large oval spot (as seen in *Diabrotica pulchella*); in another specimen the band at the base of the elytra includes

a small flavous spot. In the individual which I doubtfully treat as the female (but which may possibly represent another species) the elytra have a number of closely approached narrow longitudinal costæ, while the head differs in the smaller and more widely separated eyes, the lower portion of the latter being also much broader and more produced than in the male insect. In all these forms the antennæ and thorax are of similar structure, and it therefore seems better to treat them as representing one and the same species.

11. **Neobrotica vittatipennis.** (Tab. XXXIII. fig. 13.)

Black, the head, antennæ, thorax, and legs flavous; elytra semirugose-punctate, flavous, a subsutural vitta, divided anteriorly, a lateral broader longitudinal band near the margin, and a subapical small sutural spot, black; the femora with a black streak above.

Length 3 lines.

Head impunctate, without distinct frontal tubercles, the vertex with a central groove; antennæ scarcely half the length of the body, the second joint small, the third and following joints slender and elongate; thorax two and a half times broader than long, impunctate, the disc with a deep transverse groove; elytra rugosely punctured, the punctuation near the suture somewhat arranged in rows; legs elongate, the metatarsus of the posterior tibiæ as long as the following three joints together; claws appendiculate.

Hab. Mexico, Juquila (*Sallé*).

A single specimen. This species may be recognized by the subsutural black band of the elytra being interrupted anteriorly; the subsutural band, as well as the sublateral one, which is gradually widened posteriorly, does not extend to the base nor to the apex of the elytra. The legs are rather slender and elongate.

12. **Neobrotica inconspicua.**

Pale testaceous, the lower joints of the antennæ, the tibiæ, and the breast piceous; thorax deeply grooved, impunctate; elytra closely and distinctly punctured, with traces of longitudinal costæ.

Length 4 lines.

Hab. Mexico, Cerro de Plumas (*Höge*).

A rather large species, distinguished by its uniform pale testaceous colour, and the closely punctured and obsoletely costate elytra. The five lower joints of the antennæ are piceous; the other joints are broken off. *N. inconspicua* cannot be mistaken for *N. semicostata*, the latter having deeply and rugosely punctured elytra with very closely costate interspaces. In the present insect the elytra have very faint indications of two transverse bands, one before and another below the middle; but whether this is accidental or indicative of bands in more plainly marked specimens I am unable to say, as only one example is before me.

13. **Neobrotica quadriplagiata.**

Fulvous, the base of the head, the intermediate joints of the antennæ, and the tibiæ and tarsi black; thorax deeply grooved, impunctate; elytra very distinctly but not very closely punctured, the interstices subrugose,

the surface violaceous-black, a round spot at the base, and another at the apex connected with the lateral margin, flavous.

Length 2 lines.

Hab. GUATEMALA, San Gerónimo (*Champion*).

The antennæ have the first four and the last three joints fulvous; the apical spots on the elytra are connected with the narrow flavous lateral margin at the apex, but separated at the sides by the narrowly protruding point of the ground-colour; the breast is black at the sides only. A single specimen.

14. **Neobrotica hondurensis.** (Tab. XXX. fig. 22.)

Fulvous, the head, the intermediate joints of the antennæ, and the tibiæ and tarsi black; thorax deeply transversely grooved; elytra testaceous, a narrow transverse band at the base, a broader one at the middle, and a semicircular mark at the apex of each, bluish-black.

Length 2–2¾ lines.

Head black, impunctate; antennæ black, the basal two and the apical three joints fulvous, the third joint double the length of the second; thorax nearly twice as broad as long, the disc with a deep sinuate transverse groove, impunctate; scutellum flavous; elytra closely punctured, with some very obsolete longitudinal depressions at the sides, testaceous, a narrow transverse band at the base, strongly dentate at its posterior margin, another but broader band at the middle, and a ring-shaped mark near the apex, open behind, bluish-black; tibiæ and tarsi black.

Hab. BRITISH HONDURAS, R. Hondo (*Blancaneaux*); GUATEMALA, Cubilguitz (*Champion*).

The three examples before me differ somewhat in regard to the elytral markings, these being of a bluish colour in one and black in another specimen; in the latter the second transverse band is narrower, the punctuation of the elytra is a little stronger, and the breast is black; in the third specimen (from Guatemala) the posterior dark elytral band is almost entire and only slightly notched at the apex, indicating the ring-shaped mark of the typical form.

15. **Neobrotica simulans.**

Pale fulvous, the head and breast piceous; thorax impunctate; elytra finely and closely semipunctate-striate, a narrow transverse band at the base, a broader one at the middle, and a ring-shaped mark near the apex of each, dark blue.

Length 2 lines.

Hab. GUATEMALA, Chacoj in Vera Paz (*Champion*).

N. simulans, of which I have only a single specimen for examination, is almost identical in the design of its elytra with the preceding species, but differs from it as follows: the margins of the elytral bands are more regular, not dentate; the second band, which is separated from the first by a very narrow space, is narrowed and rounded at the suture (in *N. hondurensis* the corresponding band is narrowed at the sides); the ring-shaped marks near the apex are closed and meet at the suture; and the legs are entirely fulvous. The elytra show traces of longitudinal depressions; the intermediate

joints of the antennæ are obscure piceous, the other joints fulvous. In other respects the species agrees with *N. hondurensis*.

16. **Neobrotica sex-maculata.**

Testaceous, the intermediate joints of the antennæ piceous; thorax transverse, deeply sulcate; elytra strongly costate, the interstices deeply punctured, two spots at the base, two at, and two others below the middle, dark violaceous.

Length 3 lines.

Head testaceous, impunctate; antennæ piceous, the basal two joints beneath and the ninth joint testaceous (the apical ones wanting); thorax twice as broad as long, impunctate, with the usual deep sulcation; elytra each with about ten longitudinal costæ, the interstices deeply, often geminate, punctate, a spot at the shoulder, a smaller one near the scutellum, two spots near the middle, and two others, transversely and somewhat obliquely placed, dark violaceous; the underside and the femora testaceous, the tibiæ and tarsi piceous.

Hab. MEXICO, Tlatingo (*Sallé*). A single specimen.

17. **Neobrotica denticornis.** (Tab. XXXIII. fig. 11, ♂.)

Testaceous, the antennæ, tibiæ, and tarsi obscure piceous; thorax transverse, deeply sulcate; elytra geminate-punctate-striate, the interstices narrowly longitudinally costate, a transverse band at the base, another one at the middle, and a semilunate mark at the apex of each, dark violaceous.

♂. The third and fourth joints of the antennæ swollen, deeply emarginate on their upper edge.

Length 2 lines.

Hab. GUATEMALA, Cubilguitz, Paso Antonio (*Champion*); NICARAGUA, Chontales (*Janson*).

Smaller than *N. sex-maculata*; the costæ of the elytra less distinctly raised; the spots replaced by broad and deeply coloured bands—in one specimen they extend to the suture (which is likewise dark violaceous), and in another the band at the base is separated into two spots. The antennæ in the female are simple; in the male they are formed as in certain species of *Cerotoma*.

An example from Chontales is figured.

18. **Neobrotica cavifrons.** (Tab. XXXIII. fig. 12, ♂.)

Black, the head, thorax, and legs fulvous; elytra irregularly punctured, black, each with an angular narrow stripe from the base to the sides (touching the suture about the middle), a short oblique stripe near the apex, and the lateral margin flavous.

♂. Head with a deep frontal excavation; antennæ with the third joint swollen, the fourth joint transverse, both with their inner apical angles acutely produced.

Length $2\frac{1}{2}$ lines.

♂. Head fulvous, impunctate, deeply excavated below the antennæ, the excavation furnished with a small tubercle within and its anterior edge in the shape of a strongly raised ridge; antennæ (male) fulvous, stained with piceous, the second joint very small, the third strongly swollen at the base, its inner apical angle produced into a sharp point, the fourth joint shorter, transversely produced within, the following joints rather short and nearly equal; thorax almost twice as broad as long, the sides nearly straight, the posterior angles produced into a small tooth, the disc with a rather shallow transverse sulcation not extending to the sides, the surface fulvous, impunctate; scutellum black; elytra finely and irregularly punctured, the interspaces somewhat rugose, the lateral margin narrowly flavous, a similarly coloured slightly oblique

stripe extending from the middle of the base to the suture at the middle and from there at nearly right angles to the lateral margin, and another small obliquely curved stripe near the apex of each, the latter extending from the suture to the apical angle, and forming (with the corresponding stripe on the other elytron) a ring-shaped mark; underside, tibiæ, and tarsi black, the femora fulvous, with a small blackish spot; claws appendiculate; the anterior coxal cavities open.

Hab. MEXICO, La Parada (*Sallé*).

I have only seen a single male specimen of this curiously-marked insect, which resembles in several respects certain species of the genus *Cerotoma*.

19. **Neobrotica modesta.**

Testaceous, the head, the intermediate joints of the antennæ, and the tibiæ and tarsi black; thorax impunctate, pale fulvous; elytra finely punctured and obsoletely costate, a spot at the shoulder (sometimes absent) black; breast piceous.

Length $2\frac{1}{2}$–3 lines.

Head not visibly punctured; the frontal tubercles indistinct, bounded behind by a deep fovea; antennæ with the basal two and the apical three joints testaceous or flavous, the rest black, the third joint scarcely shorter than the fourth; thorax one half broader than long, the disc impunctate, with a deep transverse sulcation not extending to the sides; scutellum testaceous; elytra closely and irregularly punctured, the interstices obsoletely longitudinally costate, more distinctly so at the sides than on the disc, the shoulders with a black spot.

Hab. MEXICO, Tuxtla (*Sallé*).

Two specimens; one of these is smaller than the other, and has the humeral spot obsolete, and the breast scarcely darker than the rest of the under surface.

20. **Neobrotica undecim-maculata.**

Testaceous, the head, the intermediate joints of the antennæ, the tibiæ, tarsi, and breast black; elytra finely punctured, and obsoletely longitudinally sulcate, three spots at the base, four at and four others below the middle, placed transversely, black.

Length $2\frac{3}{4}$ lines.

Hab. MEXICO, Jalapa (*Höge*).

N. undecim-maculata agrees with *Diabrotica spilota*, Baly, in the colour and markings of the elytra, but is separated from that species by the generic characters. The antennæ have the third joint slightly shorter than the fourth; the thorax is impunctate, and of the usual shape and sculpture; of the three basal spots on the elytra the central one surrounds the scutellum, the other spots being placed transversely in pairs near and below the middle.

21. **Neobrotica melanocephala.** (Tab. XXXIII. fig. 14.)

Head, the intermediate joints of the antennæ, the tibiæ, tarsi, and breast black; thorax fulvous, deeply sulcate; elytra finely geminate-punctate, fulvous, the basal and sutural margins anteriorly, and a narrow lateral stripe from the base to the apex, black; abdomen testaceous.

Length 3 lines.

Head entirely black, with a deep fovea between the eyes; antennæ nearly two thirds the length of the body, the basal two and the apical three joints fulvous, the rest black, the third joint as long as the fourth;

thorax twice as broad as long, pale fulvous, shining, impunctate, with a deep transverse sulcation; scutellum testaceous; elytra obsoletely longitudinally costate, the interstices finely geminate-punctate, a narrow sublateral stripe (indented at and more deeply so below the middle) extending nearly to the suture, the latter anteriorly, the basal margin narrowly, and a small triangular sutural mark near the apex, black; the underside, with the exception of the breast, and the femora fulvous.

Hab. MEXICO, Cordova (*Sallé*).

A single specimen; this, on account of the irregular markings of the elytra, is probably not a well-marked representative of the species.

PYESIA.

Pyesia, Clark, Ann. Nat. Hist. 3rd ser. xvi. p. 260 (1865).

This genus has hitherto contained only a single species of large size, distinguished by the transversely shaped and subangulate thorax, the mucronate posterior tibiæ, and the appendiculate claws, all of which characters are present in a single specimen obtained by Herr Höge in Mexico. The typical species, *P. laticornis*, Germ., is from Brazil.

1. Pyesia mexicana.

Broadly oblong-ovate, subdepressed, greenish-black; antennæ black; thorax fulvous, with five greenish spots; elytra dark metallic-greenish, finely rugose-punctate.

Length 4 lines.

Head smooth, metallic-greenish; the frontal tubercles strongly raised, broad; the clypeus broadly trigonate, its apex broad, black; the labrum and palpi black; antennæ nearly as long as the body, robust, the second joint short, the third one half longer, the fourth the longest, the following joints gradually shorter; thorax nearly three times as broad as long, the sides strongly rounded and subangulate at the middle, the base and apex greatly narrowed, the anterior angles acute and slightly produced, the disc with a central longitudinal groove, the surface depressed near the anterior angles, finely and somewhat rugosely punctured, fulvous, with four greenish-æneous spots placed transversely and semicircularly across the disc, and another small spot near the middle of the base; scutellum broadly trigonate, black, impunctate; elytra depressed, dark greenish, very closely and finely rugose-punctate throughout, their epipleuræ continued below the middle; legs rather robust, the tibiæ compressed, their outer edge acute but not sulcate; the first joint of the posterior tarsi as long as the following two joints together; claws appendiculate; the anterior coxal cavities open; the entire under surface covered with fine pale pubescence.

Hab. MEXICO, Cordova (*Höge*). A single example.

EXORA Chev. 1837

MALACOSOMA.

Malacosoma, Chevrolat in d'Orbigny's Dict. Univ. vii. p. 605 (1846); Weise, Archiv für Naturg. 1886, ii. p. 581.

Malacosoma is a genus tolerably rich in species, having in common mucronate tibiæ and a convex prosternum, the latter being just visible between the coxæ. A single species from Mexico, distinguished by remarkably short antennæ, possesses, however, the other characters of *Malacosoma*, and I accordingly place it in this genus.

1. **Malacosoma olivacea.**

Crioceris olivacea, Fabr. Syst. Eleuth. i. p. 451[1].
Galeruca olivacea, Oliv. Entom. vi. p. 651, t. 4. f. 64[2].

Hab. MEXICO, Acapulco (*Höge*); GUATEMALA, Teleman, Chacoj, Pantaleon (*Champion*); NICARAGUA, Chontales (*Janson*); PANAMA, Bugaba, Volcan de Chiriqui, David, Caldera (*Champion*).—GUIANA[2]; BRAZIL, Bahia[1]; PERU (*coll. Jacoby*).

Apparently a common species in Tropical America, and contained in most collections. Olivier's figure gives a correct idea of the elytral pattern; varieties have not come under my observation. From Mexico we have only received a single specimen.

2. **Malacosoma encaustica.**

Galeruca encaustica, Germ. Ins. Spec. Nov. p. 598 (1824)[1].

Hab. MEXICO, Cordova, Vera Cruz (*Sallé*), Oaxaca, Jalapa (*Höge*); GUATEMALA, Senahu, Panzos, Sabo, Purula, San Gerónimo, Capetillo, Cerro Zunil, Las Mercedes (*Champion*); NICARAGUA, Chontales (*Janson*); COSTA RICA (*Van Patten*); PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).—BRAZIL, Bahia[1]; AMAZONS (*coll. Jacoby*).

Germar's description of this rather common species is sufficient for its recognition; normally-coloured individuals are testaceous, with two longitudinal ferruginous stripes on each elytron, these stripes being joined before the apex; in many examples the stripes are obsolete or entirely indistinct. Mexican specimens are often of an entirely dark fulvous colour, owing probably to discoloration after death. The species varies in size from 3–5½ lines.

3. **Malacosoma lævicollis.**

Testaceous; second and third joints of the antennæ short; thorax impunctate; elytra closely punctured, each with two ferruginous longitudinal stripes.
Length 4½ lines.

Hab. NICARAGUA, Granada (*Sallé*); COSTA RICA, Volcan de Irazu, Rio Sucio (*Rogers*).

At first sight *M. lævicollis* seems to agree perfectly with *M. encaustica,* agreeing as it does entirely in the general colour and the pattern of the elytra; the structure of the antennæ, however, at once shows its specific distinction, the second and third joints being short and equal, which is not the case in the allied species, these latter having the third joint double the length of the second. The thorax in *M. lævicollis* is much less transverse and entirely impunctate; the elytra at the base are twice as wide as the thorax. Seven specimens, all agreeing in the above particulars.

4. **Malacosoma obsoleta.**

Crioceris obsoleta, Fabr. Syst. Eleuth. i. p. 450[1].

Hab. MEXICO, Cordova, Toxpam (*Sallé*); GUATEMALA, Las Mercedes, San Isidro,

Senahu (*Champion*); NICARAGUA, Chontales (*Janson*, *Belt*); COSTA RICA (*Van Patten*), Volcan de Irazu (*Rogers*); PANAMA, Bugaba, Volcan de Chiriqui, David (*Champion*).—GUIANA, Cayenne[1]; PERU (*coll. Jacoby*).

Although Fabricius has described a form or variety of this species in which the elytra have each only three spots, and of which I possess a specimen thus marked from Peru, all the others before me from the above localities have five fuscous spots on each elytron—of these, one is placed at the shoulders, two (of elongate shape) near the suture (one near the scutellum, the other below the middle), one (transverse in shape) near the lateral margin at the middle, and one near the outer margin close to the apex. When the posterior spots are absent the typical form as described by Fabricius is produced; specimens occur in which one or more of the spots are confluent. The thorax and elytra are very closely and finely rugose-punctate. *M. obsoleta* is evidently a rather common and very widely distributed species in Tropical America.

5. Malacosoma brevicornis.

Fulvous, the antennæ, knees, and tarsi black; head and thorax impunctate; elytra closely and distinctly punctured.

Length 3 lines.

Head with a few fine punctures; the frontal tubercles very strongly raised, transversely oblique; labrum and the palpi piceous; antennæ short, black, the first joint fulvous, the second and third joints short, subcylindrical, the following joints transversely trigonate, gradually widened; thorax about one half broader than long, the margins rounded, the surface rather convex and not visibly punctured; elytra very closely and rather distinctly punctured, the interstices somewhat wrinkled; legs robust, fulvous, the knees and the tarsi black; the prosternum convex between the anterior coxæ.

Hab. MEXICO, Monclova in Coahuila (*Dr. Palmer*). A single specimen.

The antennæ are very short, and do not extend beyond the base of the thorax: this is the only important character in which *M. brevicornis* differs from the other species of *Malacosoma*. In its general shape and colour *M. brevicornis* greatly resembles the European *M. lusitanica*.

MALACORHINUS.

Body elongate or oblong; palpi rather robust; antennæ filiform (sometimes serrate in the male), the third joint distinctly longer than the second; thorax subquadrate, always constricted near the base; elytra generally widened towards the centre, often with a median lateral fovea in the male, their epipleuræ broad at the base and extending below the middle; tibiæ mucronate; the first joint of the posterior tarsi as long as the following three joints together; claws appendiculate; the anterior coxal cavities open; prosternum not visible between the anterior coxæ.

Type *Malacorhinus foveipennis*, Jac.

This genus seems to be rather numerously represented in Mexico and Guatemala. It has the general appearance of, and was indeed at first mistaken by me for, *Malacosoma*; the invisible prosternum, however, forbids the identification of the rather numerous species with that genus. The posteriorly narrowed and subquadrate thorax and the

peculiar deep fovea on the lateral margin of the elytra in the males of several of the species are characters not to be met with in the other genera inhabiting our region.

1. **Malacorhinus foveipennis.**

Diabrotica foveipennis, Jac. P. Z. S. 1879, p. 790 [1].

Hab. MEXICO, Tuxtla (*Sallé*), Cerro de Plumas (*Höge*); GUATEMALA, Dueñas [1], San Gerónimo, Sinanja, Teleman, Panzos (*Champion*); NICARAGUA, Chontales (*Janson*); PANAMA, Bugaba, Volcan de Chiriqui, David, Caldera (*Champion*).

The small spine at the apex of all the tibiæ and the appendiculate claws place this species much more appropriately in *Malacorhinus* than in *Diabrotica*. The elytra in the male have a deep median fovea placed near the lateral margin, and within this fovea a tubercle. Two examples from Mexico have the thorax rufous, and the bands and spots of the elytra of the same colour, the markings of the latter being brighter than in the specimens from the other localities. The elytral bands in some examples are only indicated by spots, and in others are more or less connected.

2. **Malacorhinus tripunctatus.** (*Malacosoma tripunctata*, Tab. XXX. fig. 25.)

Diabrotica tripunctata, Jac. P. Z. S. 1879, p. 790 [1].

Hab. MEXICO, Guanajuato, Juquila (*Sallé*); GUATEMALA, Dueñas [1], Capetillo [1] (*Champion*).

Like the preceding species, *D. tripunctata* is better placed in the present genus; in the male the elytra have a similar fovea near the lateral margin.

3. **Malacorhinus irregularis.** (Tab. XXXIII. fig. 16, ♂.)

Reddish-fulvous, the antennæ and legs black; thorax impunctate; elytra finely and closely punctured, with a spot at the shoulder, a triangular patch round the scutellum, a transverse spot at the sides, and an oblique transverse band on each below the middle, black.

♂. Elytra with an elongate lateral fovea below the shoulders.

Length 3 lines.

Head impunctate; the frontal tubercles strongly raised, transverse; clypeus narrow, transverse, its middle extending upwards in the shape of a narrow raised ridge; antennæ half the length of the body, black, the first joint fulvous, the third joint one half longer than the second; thorax rather convex, subquadrate, the sides rounded in front and narrowed near the base, the angles not produced, the surface impunctate, reddish-fulvous; elytra somewhat widened towards the middle, very finely and closely punctured, with a lozenge-shaped transverse band at the base, widened at the suture and connected laterally with a spot at the shoulder, a transverse spot below the latter, and a strongly oblique transverse band placed some distance before the apex of each, black; all the tibiæ with a small spine; anterior coxal cavities open.

Hab. MEXICO, Acapulco (*Höge*), Vera Cruz, Tuxtla (*Sallé*).

An example from Acapulco is figured.

4. **Malacorhinus antennatus.** (Tab. XXXIII. fig. 19, ♂.)

Testaceous, the apical joints of the antennæ, the tibiæ, and tarsi black; thorax impunctate; elytra very finely punctured, with a spot at the shoulder, another near the scutellum, and two, placed transversely, at the middle of each, black.

♂. The third, fourth, and fifth joints of the antennæ strongly triangularly dilated, the sixth joint pear-shaped.

♀. Antennæ slender, filiform.

Length $2\frac{1}{2}$–3 lines.

♂. Head impunctate; the frontal tubercles trigonate, strongly raised; antennæ half the length of the body, the lower five joints obscure piceous or dark fulvous, the others black, the second joint short, the third and following two joints triangularly flattened, the inner apical angles of each joint produced into a point, the sixth joint pear-shaped, its base broad and emarginate, the terminal five joints slender and thin; thorax subquadrate, scarcely broader than long, the sides narrowed at the base, the surface impunctate, with an obsolete depression near the anterior angles; scutellum piceous; elytra very closely and finely punctured, testaceous, the apices often fulvous, each with four small black spots—two at the base and two at the middle; the last ventral segment emarginate in the middle, the emargination preceded by a deep oblong fovea.

Hab. GUATEMALA, Las Mercedes, Zapote, Mirandilla, Chiacam, Cubilguitz, Purula, Senahu, Sinanja, Chacoj (*Champion*); NICARAGUA, Chontales (*Janson*); PANAMA, Bugaba, Volcan de Chiriqui, San Feliz (*Champion*).

The antennæ in the female are simple and filiform, and with the third joint one half the length of the fourth.

5. **Malacorhinus decem-punctatus.** (Tab. XXXIII. fig. 18.)

Testaceous or fulvous, the antennæ, tibiæ, and tarsi black; thorax very finely punctured; elytra each with five black spots, 2. 1. 2.

♂. Elytra with a deep longitudinal excavation at the lateral margin.

Length 2–3 lines.

Head impunctate; antennæ two thirds the length of the body, black, the first joint more or less testaceous or fulvous, filiform, the third joint one half longer than the second; thorax slightly broader than long, distinctly narrowed at the base, the sides rather strongly deflexed in front and rounded before the middle, the surface very minutely and rather closely punctured; elytra more distinctly and more closely punctured than the thorax, slightly widened towards the middle, testaceous or fulvous, with a spot at the shoulder, another near the scutellum, one near the lateral margin at the middle, and two others (sometimes connected) below the latter, placed obliquely transverse, black.

Hab. MEXICO, Ventanas (*Forrer*), Toxpam, Cordova, Vera Cruz (*Sallé*), La Noria in Sinaloa, Jalapa (*Höge*); BRITISH HONDURAS, R. Hondo (*Blancaneaux*); GUATEMALA, Mirandilla, Zapote, Capetillo, San Gerónimo, Teleman (*Champion*); NICARAGUA, Chontales (*Janson*); PANAMA, Bugaba (*Champion*).

The thorax in this species is very distinctly narrowed at the base, and its surface is extremely finely punctured; the elytral spots are often more or less confluent, and the two posterior ones occasionally form a narrow transverse irregular band. The fovea at the sides of the elytra in the male is of large and elongate shape, and has a pointed tubercle placed on the middle of its outer margin; sometimes one or two other tubercles are seen protruding from the upper margin.

A specimen from La Noria is figured.

6. **Malacorhinus sericeus.**

Ovate, convex, testaceous; thorax rufous or testaceous, impunctate, with a silky gloss; elytra very minutely punctured, each with two spots at the base, two below the middle, and one at the sides, black; tibiæ and tarsi fuscous.

♂. Elytra with a small oblong fovea at the sides.

Length 2½ lines.

Hab. GUATEMALA, Chiacam, Senahu (*Champion*); NICARAGUA, Chontales (*Janson*).

At first sight *M. sericeus* seems to be scarcely separable from *M. decem-punctatus*, which it resembles exactly in the number and position of the elytral spots. It differs, however, as follows:—the thorax is not nearly so constricted at the base, and its surface is entirely impunctate and silky in appearance; the two posterior spots on the elytra are placed immediately behind the middle, and not so far back as in *M. decem-punctatus*; and, lastly, the elytral fovea of the male is small and has no tubercle within. Specimens from Chontales are redder in tint, and are more convex in shape and more widened at the middle, than those from Guatemala. The first two joints of the antennæ are generally testaceous, the other joints fuscous.

7. **Malacorhinus biplagiatus.** (Tab. XXXIII. fig. 20, ♂.)

Black, above reddish-fulvous; head and thorax impunctate; elytra very finely punctured, each with a round spot near the scutellum, and a transverse one below the middle, black.

♂. Elytra widened towards the middle, each with one or two tubercles near the lateral margin, the tubercles followed by a narrow elongate fovea.

Var. Elytra with the black spots enlarged and connected, leaving a central spot and the apices fulvous.

Length 2–2½ lines.

Head with the frontal tubercles and the clypeus narrowly transverse and distinctly raised; antennæ black (the basal joint often fulvous), the third joint slightly shorter than the fourth; thorax subquadrate, distinctly narrowed at the base, the surface (when seen under a very strong lens) very finely punctured; scutellum fulvous; elytra scarcely more distinctly punctured than the thorax, each with a round spot near the scutellum, and a more transversely-shaped one below the middle, black; underside and legs black.

Hab. MEXICO, Ventanas (*Höge*), Capulalpam, Yolotepec, Cordova, Juquila, Yolos, Oaxaca (*Sallé*); BRITISH HONDURAS, R. Sarstoon (*Blancaneaux*); GUATEMALA, Capetillo, Zapote (*Champion*).

The male of *M. biplagiatus* is of a more widened shape towards the middle than the female, and may be known by the conical tubercle placed at the centre of (and a little within) the lateral margin of the elytra; this tubercle is often preceded by a shallow fovea and followed by a deeper one; in front of the latter the lateral margin seems doubled, enclosing a narrow and elongate depression. In an example from Yolotepec, which I refer to the same species, the disc of the elytra is black, enclosing a subquadrate fulvous spot at the middle, and the lateral margins and the apices are fulvous. Another specimen (a male) from Yolotepec differs from the type in having a narrow transverse band at the base of the elytra, this band being connected at the sides with a broad band placed below the middle; in this example the elytra have two tubercles placed near

the lateral margin with an elongate fovea between them, and the antennæ are more robust. In a third specimen from Capulalpam (a female) the elytral spots are larger, and the extreme apices are also black; and the first three joints of the antennæ are fulvous. Whether all these forms must be referred to varieties only, or represent other species, I am not able to say, as long series of specimens from the different localities are required to settle this point. We figure an example from Capetillo.

8. **Malacorhinus basalis.**

Fulvous, the antennæ and legs black; thorax very minutely punctured; elytra closely and finely punctured, each with a transverse spot at the base and another below the middle, bluish-black.

♂. The first joint of the antennæ strongly dilated at the apex, fulvous.

Var. The posterior elytral spot wanting or only indicated; femora sometimes fulvous.

Length 1½ line.

Hab. MEXICO, Santecomapan, Toxpam (*Sallé*); GUATEMALA, Zapote, San Gerónimo, El Jicaro, Tamahu, Panima (*Champion*); PANAMA, Bugaba, Volcan de Chiriqui, Caldera (*Champion*).

M. basalis differs from *M. biplagiatus* in being smaller, and in having the underside fulvous instead of black; the elytral spots are narrowly transverse and have a bluish gloss, and the surface is more distinctly though finely punctured. The male has the joints of the antennæ shorter and more robust, the first joint club-shaped and distinctly thickened; and the head furnished with a deep fovea, the clypeus being raised and somewhat curved upwards. The female has sometimes two obsolete depressions on the thorax, the thorax itself being more transversely shaped than in the male. There is no elytral fovea visible in any of the specimens before me; and nearly all those from Chiriqui are devoid of the posterior elytral spot.

9. **Malacorhinus sex-punctatus.** (Tab. XXXIII. fig. 21, ♂.)

Testaceous, the antennæ and tibiæ black, above reddish-fulvous; thorax impunctate; elytra closely and finely punctured, with a spot at the shoulder, another larger one near the scutellum, and a sublateral spot before the middle, black.

♂. Elytra with an oblong depression near the lateral margin, the latter slightly thickened and produced in front of the depression.

Length 2–2½ lines.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

Of the same colour and size as *M. biplagiatus*; but differs in the elytra being more closely and distinctly punctured, and in the position and shape of the spots (these being placed in a triangle at the base); and also in the position and sculpture of the fovea in the male, it being placed before (not at) the middle, and also being shallower and without tubercles. In the only male specimen before me there is a small extra black spot placed at the middle of each elytron near the suture. The antennæ are slender, and the third joint is distinctly shorter than the fourth.

10. Malacorhinus guatemalensis.

Black, above testaceous; thorax nearly impunctate; elytra closely punctured, the interspaces slightly rugose, an elongate spot near the scutellum and another one below the middle, black.

Var. The two elytral spots joined into a longitudinal stripe.

Length $1\frac{1}{2}$ line.

Head with a few fine punctures; the frontal tubercles strongly raised, trigonate; the palpi piceous; antennæ slender, black, the third joint slightly shorter than the fourth; thorax about one half broader than long, narrowed at the base, the surface with a few fine punctures; elytra testaceous or pale flavous, more distinctly punctured than the thorax, the interspaces somewhat rugose.

Hab. GUATEMALA, near the city (*Salvin*), Capetillo, Purula (*Champion*).

Smaller than *M. biplagiatus*, and of a paler colour above; the elytral spots of elongate (not transverse) shape and the surface finely wrinkled. There seems to be no appreciable difference between the two sexes.

11. Malacorhinus apicalis.

Testaceous or pale fulvous, the antennæ, knees, tibiæ, and tarsi black; thorax scarcely visibly, the elytra very finely, punctured, each elytron with a subquadrate spot at the shoulder, a transverse one below the middle, and the extreme apex, black.

Var. The elytral spots larger and connected at the sides, and the apical spot placed at the suture.

Length 2 lines.

Hab. GUATEMALA, Zapote, Pantaleon, Mirandilla (*Champion*).

It is somewhat doubtful whether *M. apicalis* represents a distinct species or is only a variety of *M. biplagiatus*; it differs from the latter in having a pale under surface (the breast and part of the abdomen is slightly stained with piceous), testaceous (not black) femora, and in the black apices of the elytra; the thorax is also much less constricted at the base. There are four specimens before me agreeing in the above particulars. I am unable to say whether there is any difference between the sexes in regard to the structure of the elytra or the antennæ; the examples are possibly all females.

12. Malacorhinus fulvicornis.

Reddish-fulvous; antennæ slender, fulvous; tibiæ and tarsi black; thorax minutely punctured; elytra more distinctly and closely punctured, a narrow transverse band at the base, and a still narrower stripe below the middle, black.

Length $2\frac{1}{2}$–3 lines.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

The antennæ in the present insect are entirely fulvous and more than half the length of the body, the joints being elongate and slender; the third joint is one half shorter than the fourth. The second transverse stripe of the elytra is very narrow and straight, and is placed immediately below the middle, but does not quite extend to either margin. The underside and the femora are reddish-fulvous.

Two specimens only.

13. **Malacorhinus godmani.**

Black, the head and thorax fulvous; elytra extremely finely punctured, reddish-fulvous, a subquadrate spot at the base, and a more transversely-shaped and smaller spot below the middle, black.

♂. Antennæ robust, the third joint strongly curved and with its apex produced; elytra with an oblong depression at the sides.

Length 2 lines.

Hab. GUATEMALA, Chiacam (*Champion*).

The single male specimen obtained is similarly coloured to several of the preceding species, but differs in the structure of the antennæ from any of its congeners. These organs have the joints (with the exception of the elongate first and the short second one) robust, somewhat widened and triangularly shaped, and the third joint (which is longer than the fourth) is strongly curved at its inner margin; the three basal joints are fulvous, the others black. The thorax is rather more transversely shaped than in many of the allied species; and the elytra have their basal spot broad and extending to the suture but not to the lateral margin, and the posterior spot placed directly below the lateral depression.

14. **Malacorhinus semifasciatus.**

Testaceous, the antennæ, tibiæ, and tarsi black; head and thorax fulvous; elytra testaceous, their apices fulvous, a spot at the shoulder, another near the scutellum, a transverse band at the middle, and another band below the latter, black.

♂. Elytra with a fovea at the middle of the sutural margin.

Var. The bands and spots of the elytra more or less connected at the suture.

Length $1\frac{1}{2}$ line.

Head impunctate; the frontal tubercles strongly developed; antennæ nearly as long as the body in the male, shorter in the female, the third joint one half longer than the second but one half shorter than the fourth joint; thorax subquadrate, slightly narrowed at the base, the surface with some extremely fine punctures; elytra scarcely more distinctly punctured.

Hab. GUATEMALA, Cubilguitz in Vera Paz (*Champion*).

In well-marked specimens the two narrow transverse black bands of the elytra are very distinct, and either connected with the scutellar spot or with each other; in others the posterior band is often nearly obsolete or entirely absent; the disc of the elytra is generally testaceous, and the apices more or less fulvous. In the male insect the antennæ are furnished with rather robust and somewhat triangularly dilated joints; the elytral foveæ, which in the allied species are generally placed at the lateral margin, are here transferred to the suture. Many specimens.

15. **Malacorhinus tricolor.**

Testaceous, the antennæ, tibiæ, and tarsi black, the head and thorax rufous; elytra scarcely visibly punctured, testaceous, each with three transverse rufous bands, the first two margined with black.

♂. Antennæ with the terminal joints strongly serrate.

Length 3 lines.

Head impunctate; the frontal tubercles transverse, narrow; clypeus distinctly swollen, narrowly transverse;

antennæ half the length of the body, black, the fourth joint one half longer than the third, the terminal five joints strongly transversely dilated and acutely dentate at the apex; thorax about one half broader than long, distinctly narrowed at the base, the surface with a few scarcely visible punctures, rufous, shining; elytra nearly impunctate, testaceous, a broad transverse band below the middle, the apices, and the extreme lateral margin, rufous, a transverse band at the base and the anterior edge of the central band, black, the shoulders rufous; tibiæ black, armed with a small spine.

Hab. BRITISH HONDURAS, Belize (*Blancaneaux*).

This handsomely-marked species will be easily recognized by its coloration and the structure of the antennæ in the male; the elytral bands, with the exception of the basal one, extend to the sutural and lateral margins.

16. **Malacorhinus scutellatus.**

Narrowly elongate, fulvous; the head, antennæ, scutellum, and the breast and legs, black; thorax impunctate; elytra finely rugose and closely punctured.

Length $2\frac{1}{2}$ lines.

Head broad, black, impunctate, impressed with an oblong fovea between the eyes; the anterior edge of the clypeus and the sides of the labrum testaceous; antennæ half the length of the body, black, the first joint fulvous at the apex, the third joint one half longer than the second; thorax twice as broad as long, the sides strongly narrowed at the base, nearly straight, the surface somewhat convex, impunctate, flavous; scutellum black; elytra closely punctured, the interstices slightly rugose; the breast and the legs black; the tibiæ mucronate; the first joint of the posterior tarsi as long as the following two joints together; claws appendiculate.

Hab. MEXICO, Ciudad in Durango (*Forrer*).

A single specimen.

17. **Malacorhinus dilaticornis.** (Tab. XXXIII. fig. 22, ♂.)

Black, the lower part of the head, the basal joints of the antennæ, the thorax, and the four anterior legs fulvous; elytra minutely punctured, black, a transverse band (or spot) before, and another band below the middle, fulvous.

Length 3 lines.

♂. Head with some fine punctures on the vertex, the latter black; the lower portion fulvous; the frontal tubercles very broad, subquadrate; antennæ more than half the length of the body, the six lower joints fulvous, the rest black, the basal joint strongly swollen at the apex, the second joint very small, the third joint greatly enlarged and dilated and with its lower surface concave, the fourth joint narrow at the base and transversely widened at the apex, the remaining joints filiform and nearly equal in length; thorax subquadrate, slightly constricted at the base, fulvous, an elongate spot on each side, and another at the middle, near the base, black, the disc impunctate, with an obsolete depression on each side; scutellum black; elytra very finely and closely punctured, narrowly elongate, black, a transverse band before the middle and another slightly oblique one near the apex of each, fulvous; the four anterior legs fulvous, the femora and the tibiæ with a black streak at their upper margin; the first joint of the anterior tarsi greatly enlarged, that of the intermediate legs less strongly widened.

Hab. MEXICO, Cuernavaca (*Sallé*), Tonila in Colima (*Höge*).

In the female the antennæ and the tarsi are simple and the posterior femora much shorter.

A male example from Cuernavaca is figured.

18. **Malacorhinus reticulatus.** (Tab. XXXIII. fig. 17, ♂.)

Testaceous, the antennæ (the basal and apical joints excepted), the tibiæ, and tarsi black; thorax fulvous, very minutely punctured; elytra very finely punctured, testaceous, the apical portion fulvous, the anterior part divided by narrow black bands, the bands surrounding a central sutural, a small basal, and two lateral testaceous spaces.

♂. The elytra with a deep fovea at the middle of the lateral margin.

Length 3 lines.

Hab. MEXICO, Cordova (*Sallé*).

M. reticulatus is at once distinguished amongst its allies by the curious pattern of the elytra, the black portion of which resembles a network enclosing semiregular patches of the ground-colour; of these patches three smaller ones at the sides and base respectively surround a larger sutural space at the middle of the disc. The antennæ have the first joint fulvous and the terminal three joints paler; the third joint is twice the length of the second. A single specimen.

19. **Malacorhinus (?) centro-maculatus.**

Testaceous or fulvous, the antennæ, tibiæ, and tarsi black; thorax and elytra opaque, the latter finely punctured, each elytron with a small central black spot.

Var. Elytra without black spots.

Length 3 lines.

Head impunctate; the frontal tubercles distinct at the middle only, but contiguous with the sides; antennæ nearly as long as the body, black, the apical three joints sometimes obscure fulvous, the second and third joints small and nearly equal in length; thorax nearly twice as broad as long, subquadrate, the sides narrowly margined and rather deflexed, the surface somewhat flattened, not visibly punctured; scutellum broadly trigonate; elytra opaque (like the rest of the upper surface), very finely and rather closely punctured, each with a small black spot placed at the middle of the disc; below and the femora fulvous, a streak at the upper edge of the anterior femora, and the tibiæ and tarsi, black; tibiæ with a small spine; the first joint of the posterior tarsi longer than the following three joints together; claws appendiculate.

Hab. MEXICO, Tepanistlahuaca (*Sallé*); GUATEMALA, Capetillo (*Champion*).

This species is provisionally placed in *Malacorhinus*; it differs from the other members of the genus in the more transversely shaped and not posteriorly constricted thorax, and in the longer metatarsus of the posterior legs.

LUPERODES.

Luperodes, Motschulsky, Etud. ent. vii. p. 102 (1858).

About twenty species of this genus have been described, all, with two exceptions, inhabitants of the eastern portions of the globe. *Luperodes* is closely allied to *Monolepta* and *Luperus*; from the latter it is separated by the first joint of the posterior tarsi being much longer, the body more ovate and convex, and the thorax generally with its posterior margin more or less rounded and the surface obsoletely transversely depressed. One American species, *L. kirschi*, Har., has been described; this, however, seems to agree better with *Luperus*, to judge from a specimen in my possession. We have nevertheless received a good many species from our country

which do not seem to differ to any marked degree from the Old-World forms; twelve are here described.

1. Luperodes apicalis.

Oblong ovate, slightly widened posteriorly, fulvous; antennæ, tibiæ, and tarsi black; thorax with two obsolete depressions; elytra very finely and closely punctured, fulvous, the apical portion black.

Length 2 lines.

Head impunctate; the frontal tubercles distinct; the clypeus not separated from the face; palpi piceous; antennæ nearly as long as the body, the second joint short, the third one half longer, black, the basal joint fulvous beneath; thorax twice as broad as long, the sides straight, the posterior margin rounded, the surface very finely punctured, with an obsolete transverse depression on each side; elytra slightly widened towards the apex, the latter black, the basal two thirds fulvous, punctured like the thorax; the underside and the femora fulvous, paler than above, the knees, tibiæ, and tarsi black; the first joint of the posterior tarsi as long as half the tibia.

Hab. GUATEMALA, Sinanja in Vera Paz (*Champion*).

2. Luperodes melanocephalus.

Broadly ovate, testaceous; the intermediate joints of the antennæ, the head, and the breast black; thorax impunctate; elytra very minutely punctured, each with two spots at the base and two below the middle, black.

Length 3 lines.

Head impunctate, black; palpi robust; antennæ two thirds the length of the body, testaceous, the sixth and seventh joints and the apex of the terminal one, black, the third joint twice the length of the second, the other joints elongate, equal; thorax more than twice as broad as long, the sides nearly straight, slightly narrowed towards the apex, the anterior angles obliquely rounded, thickened, the posterior margin rounded, slightly sinuate in the middle, the surface impunctate, very obsoletely depressed at the sides; scutellum triangular, testaceous; elytra closely and finely punctured, obsoletely depressed near the middle, with an elongate spot at the shoulder, a rounded one near the scutellum, and two others placed transversely below the middle, black; legs testaceous, the posterior tibiæ with a long spine; the first joint of the posterior tarsi much longer than the following three joints united.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

There is only a single specimen before me of this comparatively large species; in the elytral pattern it somewhat resembles certain forms of *Diabrotica*.

3. Luperodes biannularis.

Ovate, convex, testaceous; the vertex of the head, the antennæ, and the tibiæ and tarsi black; thorax narrowly transverse; elytra finely punctured, each with a broad transverse band at the apex and a ring-shaped mark at the base, black.

♂. Antennæ longer than the body; the third joint extremely small, shorter than the second joint.

Length 1½ line.

♂. Head impunctate at the vertex, the latter black; clypeus not separated from the face, forming a single piece with the latter; eyes very large; antennæ longer than the body, black, the second joint small, moniliform, the third only half the length of the preceding, the fourth joint extremely long, longer than the fifth; thorax transverse and short, more than twice as broad as long, the sides and the posterior margin rounded, the surface very finely and irregularly punctured, testaceous; scutellum black; elytra finely and closely punctured, the interspaces very finely semi-rugose; the underside and the femora testaceous, the tibiæ and tarsi blackish; the first joint of the posterior tarsi half the length of the tibia.

Hab. PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

Many specimens.

4. Luperodes apicicornis.

Ovate, convex, testaceous, the antennæ (the apical joint excepted) and the tibiæ black; thorax finely punctured, the sides with a black band; elytra scarcely visibly punctured, with the base, a narrow transverse band before the middle, and the apical margins, black.

Var. The thorax and elytra testaceous, the apices of the latter obscurely piceous.

Length $1\frac{1}{2}$ line.

Head impunctate; the frontal tubercles very indistinct; antennæ as long as the body, the third joint one half longer than the second, the three or four basal joints more or less testaceous beneath, the apical joint entirely of that colour, the rest black; thorax transverse, the basal margin rounded, the surface very minutely punctured, with a very obsolete transverse depression on each side, the sides with a narrow longitudinal black band; elytra convex, scarcely more distinctly punctured than the thorax, testaceous or fulvous, with the base, a narrow transverse band before the middle (connected with the basal mark at the sutural and lateral margins), and the apices at the sides, black; the first joint of the posterior tarsi half the length of the tibia.

Hab. PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).

Separated from *L. biannularis* by the differently-coloured antennæ, the black sides of the thorax, and the similarly-coloured elytral apices. The third joint of the antennæ is also longer than in the allied species. The few specimens which I refer to the variety differ in the absence of the black thoracic and elytral markings, the apices of the elytra only being stained with piceous; they agree with the type in the colour and structure of the antennæ.

5. Luperodes dimidiaticornis.

Testaceous, the intermediate and the apical two joints of the antennæ black; thorax finely punctured, the sides with a black band; elytra closely punctured, a transverse band at the base, another below the middle, and a third near the apex, connected at the sides and at the suture, black.

Var. The apical band of the elytra absent, the other bands almost obsolete.

Length $1\frac{1}{4}$ line.

Hab. PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).

This species seems to be very variable in the markings of the elytra: in one example only are they plainly visible; in all the others the elytral bands are either nearly obsolete or incomplete. The band at the base generally leaves a small spot near the scutellum and another at the shoulder of the ground-colour and extends in a point downwards along the suture, this band being connected at the sides with a broader stripe extending to the posterior bands; the latter are, in most specimens, only faintly indicated. *L. dimidiaticornis* is of the same shape and size as the two preceding species, from which it is principally distinguished by the colour and structure of the antennæ—the sixth and seventh and the apical two joints being black and the second and third joints small and equal; these organs are also shorter than in the allied forms.

6. Luperodes nigricornis.

Pale fulvous, the antennæ and the posterior tibiæ black; elytra black, closely punctured, a transverse band at the middle, widened at the suture, fulvous.

♂. Antennæ longer than the body, the third joint very minute.
Length 1½–2 lines.

Hab. GUATEMALA, Senahu, Sinanja (*Champion*).

L. nigricornis is larger and of more flattened shape than *L. dimidiaticornis*, from which it differs in the finely punctured vertex in connection with the entirely black antennæ; the fulvous band at the middle of the elytra is widened at the suture and does not extend to the lateral margins. The antennæ in the male insect extend beyond the apex of the elytra; the third joint is smaller than the second, and the following three joints are somewhat thickened and elongate. These characters will assist in the recognition of *L. nigricornis*.

7. Luperodes fulvo-fasciatus.

Fulvous, the antennæ, knees, tibiæ, and tarsi black; thorax finely punctured, obsoletely depressed at the sides; elytra black, extremely finely punctured, a transverse band of regular shape at the middle, fulvous.
Length 2 lines.

Hab. MEXICO, Cordova (*Sallé*).

This insect resembles *L. nigricornis* in coloration, but is twice the size. The fulvous elytral band of *L. fulvo-fasciatus* is broader than in that species, of very regular shape, and extends quite to the lateral margins and very narrowly upwards along the suture to the base; the antennæ extend to two thirds of the length of the body and have their third joint twice as long as the second.

A single specimen.

8. Luperodes humeralis.

Ovate, widened posteriorly, fulvous; antennæ and legs black; thorax impunctate; elytra very finely and closely punctured, fulvous, a spot at the shoulder, and the lateral margin anteriorly, black.
Length 2 lines.

Head fulvous, impunctate; the clypeus not separated from the face; labrum piceous; antennæ nearly as long as the body, black, the third joint one half longer than the second; thorax twice as broad as long, the sides straight, the posterior margin rounded, the surface not visibly punctured, with a very obsolete transverse depression on each side; scutellum flavous; elytra finely and closely punctured, fulvous, the shoulders with a black spot, the lateral margins and the epipleuræ at the base black; legs black; the first joint of the posterior tarsi much longer than the following three joints united.

Hab. GUATEMALA, San Gerónimo, Panajachel (*Champion*).

The black antennæ and legs and the humeral spot of the elytra (which extends downwards along the lateral margin for a short distance) separate *L. humeralis* from any of its congeners.

9. Luperodes sallæi.

Fulvous, the antennæ, tibiæ, and tarsi black; thorax and elytra very finely punctured, the latter with a spot at the shoulder, another near the scutellum, the apical margin, and a subsutural spot near the apex, black.
Length 2 lines.

Head impunctate; the frontal tubercles nearly obsolete; antennæ about two thirds the length of the body, black, the second and third joints small, the latter slightly longer than the second, the fourth and following joints very elongate; thorax twice as broad as long, the lateral and the posterior margins slightly rounded, the surface finely punctured, obsoletely depressed on each side; elytra not more strongly punctured than the thorax, with two spots at the base (the inner one near the scutellum, the outer one on the shoulder), a spot, of more elongate shape, near the suture below the middle, the lateral margins posteriorly, and the apical margins also, black; posterior femora at the apex, and all the tibiæ and tarsi, black; the underside fulvous; the first joint of the posterior tarsi half the length of the tibia.

Hab. MEXICO, Yolotepec, Juquila (*Sallé*).

10. Luperodes impressicollis.

Black, the head, the three basal joints of the antennæ, the thorax, and legs fulvous; head and thorax finely punctured, the latter impressed; elytra dark blue, very finely punctured.

Length 2 lines.

Head finely and rather closely punctured at the vertex; the frontal tubercles transverse, bounded posteriorly by a deep transverse groove; clypeus with a distinct central ridge; antennæ about half the length of the body, the joints rather short and robust, the three lower joints fulvous, the others black, the third joint very little longer than the second; thorax twice as broad as long, the sides slightly rounded at the middle, the posterior margin somewhat sinuate, the disc finely and closely punctured, with two more or less deep depressions which sometimes nearly unite; scutellum black; elytra very closely and finely punctured, dark metallic blue; underside black, clothed with yellow pubescence; legs fulvous, all the tibiæ armed with a spine; the first joint of the posterior tarsi rather longer than the following joints together; claws appendiculate; the anterior coxal cavities open.

Hab. MEXICO, San Andres Chalchicomula, Jacale (*Sallé*), Oaxaca (*Höge*).

11. Luperodes minutus.

Testaceous, the sixth and seventh and the apical three joints of the antennæ, black; thorax finely punctured, with the sides black; elytra closely punctured, an oblique longitudinal streak from the middle of the base to the suture, a transverse band below the middle, and the sides, piceous.

Var. The elytral markings nearly obsolete.

Length 1 line.

Head impunctate; antennæ as long as the body, the second and third joints very small, equal; thorax twice as broad as long, finely punctured, with a more or less distinct lateral depression, the lateral margins black or piceous; elytra very finely and rather closely punctured, very obsoletely depressed below the base, testaceous, with a short piceous streak commencing at the middle of the base, this streak being connected with an oblique and pointed stripe extending from the base to the suture (forming a V-shaped mark with the corresponding stripe on the other elytron), and a broader and irregular transverse piceous band below the middle, the latter connected with the similarly-coloured sides; the underside and legs testaceous; the first joint of the posterior tarsi half the length of the tibia.

Hab. PANAMA, Bugaba, David (*Champion*).

This is the smallest of our species. In the elytral markings *L. minutus* resembles *L. biannularis* and *L. apicicornis*, but differs in the colour of the antennæ; the V-shaped anterior markings of the elytra are directed obliquely downwards along the suture, and the posterior band does not occupy the apices: these differences, together with the small size, will help to distinguish *L. minutus* from its allies.

12. Luperodes (?) metallicus.

Black, the basal joints of the antennæ and the tibiæ flavous; thorax distinctly punctured, obsoletely depressed; elytra metallic blue, semipunctate-striate.

Length 1 line.

Head bluish-black, impunctate, deeply transversely grooved between the eyes, the latter very large and occupying the entire side of the head; frontal tubercles very distinct, elongate; labrum and the palpi obscure fulvous; antennæ long and slender, black, the three basal joints flavous, the second and third very short and equal; thorax scarcely twice as broad as long, all the margins nearly straight, the surface obsoletely transversely depressed across the disc, rather strongly and closely punctured, black; scutellum black; elytra metallic greenish-blue, rather strongly punctured, the punctuation arranged in almost regular rows; tibiæ and tarsi flavous; the first joint of the posterior tarsi much longer than the following three joints together.

Hab. GUATEMALA (*coll. Jacoby*).

A single example. This small species apparently possesses all the characters of *Luperodes*, although I am not sure of the state of the anterior coxal cavities; the eyes are exceptionally large. The metallic colour of the elytra further separates *L. metallicus* from any other species of the genus.

LUPERUS.

Luperus, Geoffroy, Hist. Ins. i. p. 230 (1762); Weise, Archiv für Naturg. part 2, p. 589 (1886); Joannis, L'Abeille, iii. p. 115 (1866).

Calomicrus, Stephens, Illustr. Brit. Ent. iv. p. 293 (1831).

The great number of species of *Luperus*, very many of which have been included in it for want of a better place, make it no easy matter to define the genus properly; many of the characters supposed to be peculiar to it are of a rather more negative than positive nature, thus—the antennæ vary in regard to the length of the joints (which is also the case in many other genera), and the shape of the thorax and the length of the posterior metatarsus is equally variable. It may, however, be taken as a rule that the general shape of the body of *Luperus* is elongate, of delicate structure, and the legs are feeble and slender; the posterior tibiæ are armed with a spine (often difficult to detect), and the claws are appendiculate. The numerous species seem to be distributed over the greater part of the world; many are known from Europe and North America, but none have up to the present time been made known from our country. The species seem subject to a good deal of variation, which makes their determination often a difficult task.

1. Luperus morrisoni.

Black, the first five joints of the antennæ, and the anterior tibiæ fulvous; above metallic green or bluish; thorax extremely finely punctured; elytra more distinctly and very closely punctate.

Length 2 lines.

Head rather broader than long, impunctate; the frontal tubercles narrowly transverse, bounded behind by a deep groove; clypeus with a strongly raised central ridge; labrum and palpi piceous; antennæ two thirds the length of the body, the joints rather robust, the third joint scarcely longer than the second, the fourth

the longest, the five or six lower joints fulvous, the rest black; thorax about one half broader than long, the sides slightly rounded before the middle, nearly straight at the base, the angles distinct but not prominent, the surface very minutely punctured, with (when seen in a certain light) two or three small nearly obsolete depressions near the base; scutellum black; elytra closely covered with fine punctures which are somewhat arranged in rows; legs black, the extreme base of the four posterior tibiæ, and the anterior tibiæ entirely, fulvous; the first joint of the posterior tarsi as long as the following two joints together.

Hab. MEXICO, Northern Sonora (*Morrison*).

L. morrisoni differs from *L. cyanellus*, Lec., in the colour of the antennæ and legs, and in the more strongly punctured elytra. *L. meraca*, Say, is larger, and has the antennæ and legs flavous, and the elytra with traces of longitudinal sulcations; *L. longulus*, Lec., is of more elongate shape, with the legs black, the general colour dark bluish-black (not metallic blue or green), and the thorax entirely impunctate.

I am much indebted to Dr. Horn for specimens of these North-American species, with which I have been enabled to compare the present insect.

2. Luperus lecontii.

Luperus rufipes, Lec. Col. of Kansas and New Mexico, p. 27 (1859) [1]; Proc. Ac. Phil. 1865, p. 209 [2] (nec Scopoli).

Luperus lecontii, Crotch, Proc. Ac. Phil. 1873, p. 54.

Hab. NORTH AMERICA, New Mexico [1] [2].—MEXICO, Northern Sonora (*Morrison*).

I refer two specimens from Northern Sonora to *L. lecontii*; this species is compared by Leconte with *L. meraca*, Say, with which it closely agrees, but differs in the less acute and dentiform angles of the thorax and in the entirely fulvous legs. I must, however, add that the Sonoran specimens though exhibiting these differences have the thorax black and impunctate; the elytra metallic green, and exceedingly finely and not closely punctured, and with traces (in one specimen) of slight longitudinal costæ; and the legs and antennæ fulvous, each joint of the latter being slightly stained with fuscous at the apex.

3. Luperus rugosus.

Black, above dark bluish- or greenish-black; head, thorax, and elytra closely rugose-punctate.

Length $1\frac{1}{2}$–2 lines.

Head strongly rugose at the vertex; the frontal tubercles and carina distinct, the latter short; antennæ two thirds the length of the body in the male, shorter in the female, black, the third joint about one half longer than the second; thorax about one half broader than long, the sides perfectly straight, the posterior margin slightly rounded, the surface unevenly rugose and punctured, the middle of the disc sometimes with some smooth round spaces and a short ridge near the base; scutellum black, smooth; elytra strongly and closely punctured, the interstices wrinkled throughout, the epipleuræ continued below the middle; the underside and the legs black, finely pubescent; the tibiæ mucronate, the posterior pair with a long spine; the first joint of the posterior tarsi as long as the following three joints united; claws appendiculate; the anterior coxal cavities incomplete.

Hab. MEXICO, Presidio, Ventanas, Ciudad in Durango (*Forrer*).

The straight sides of the thorax and the rugosely punctured upper surface will help to distinguish *L. rugosus* from its congeners.

4. Luperus parvulus.

Black, above metallic blue; thorax with a few fine punctures; elytra more distinctly punctured, the punctuation arranged in semiregular rows.

Length $1\frac{1}{4}$ line.

Head not visibly punctured; the frontal tubercles obsoletely raised, but broad; the carina also broad and short; labrum piceous; antennæ rather more than half the length of the body, the terminal joints distinctly thickened, black, the basal joints stained with fulvous below, the third joint not longer than the second; thorax subquadrate, distinctly narrowed at the base, only visibly punctured near the posterior angles; scutellum black; elytra slightly depressed below the scutellum, rather convex and subcylindrical, more distinctly punctured anteriorly than below the middle, the punctures semiregularly arranged, the apices broadly rounded; legs black, the femora rather robust; the first joint of the posterior tarsi as long as the following two joints united.

Hab. MEXICO, Guanajuato (*Sallé*).

L. parvulus is distinguished by its small size, the uniform metallic blue colour of the upper surface, and the distinctly thickened antennæ; also by the elytra being semiregularly punctured, the punctuation almost obsolete at the apex.

5. Luperus subcostatus.

Black or piceous, the head (the vertex excepted), thorax, and femora fulvous; elytra metallic green, finely punctured, the interstices more or less distinctly longitudinally costate.

Var. Head entirely fulvous.

Length 2 lines.

Head smooth, impunctate, the vertex greenish-piceous, the lower part flavous; the frontal tubercles strongly developed, flavous; the anterior edge of the clypeus straight; palpi slender, filiform, the third joint piceous; antennæ scarcely half the length of the body, black, the three lower joints partly or entirely fulvous, the third joint twice as long as the second, the fourth and following joints closely pubescent; thorax about one half broader than long, the sides strongly rounded before the middle, constricted near the base, the anterior angles obliquely rounded, somewhat produced outwards, and each furnished with a single hair, the surface entirely impunctate, fulvous, shining; scutellum black; elytra very finely semi-punctate-striate, the rows of punctures often doubled and towards the apex quite indistinct, the interstices longitudinally costate on the disc, the punctuation closer and more irregular at the sides; the breast and abdomen piceous; the apices of the tibiæ and the tarsi obscure fuscous; the posterior tibiæ with a small spine; the first joint of the posterior tarsi not longer than the following two joints together; claws appendiculate; anterior coxal cavities open.

Hab. MEXICO, Iguala in Guerrero (*Höge*).

Of this species there are but two specimens before me. One (the variety), apparently a female, differs from the other in the following manner:—the head and the antennæ are almost entirely fulvous, the antennæ are shorter, the thorax is scarcely so transverse, the elytra are more distinctly costate, and the first joint of the posterior tarsi is scarcely so long as the following two joints together; all other characters agree entirely. *L. subcostatus* may be known by the costate elytra; the shoulders are also rather prominent and angular. I somewhat doubtfully include it in the genus *Luperus*.

6. Luperus subglabratus.

Black, the head (the vertex excepted), antennæ, thorax, and legs fulvous; thorax subquadrate, impunctate; elytra metallic blue, scarcely visibly punctured.

Length $1\frac{3}{4}$–2 lines.

Head more or less metallic æneous or greenish at the vertex, impunctate, the lower part fulvous; the frontal tubercles distinct, broad and rather elongate; clypeus narrowly transverse, its apex not much prolonged upwards; mandibles piceous at the apex; antennæ rather stout, fulvous, the third joint scarcely twice the length of the second; thorax about one half broader than long, the sides nearly straight, scarcely rounded or widened in front, the posterior margin slightly sinuate, the surface rather flattened, entirely impunctate, fulvous; scutellum piceous; elytra dark violaceous-blue, only visibly punctured when examined under a strong lens; legs fulvous; the first joint of the posterior tarsi as long as the following two joints united.

Hab. MEXICO, Acapulco in Guerrero (*Höge*).

L. subglabratus is separated from other similarly-coloured species by the shape of the thorax and by its straight sides and impunctate surface, and also by the nearly glabrous elytra; the head is in all the specimens more or less metallic green at the vertex. A single specimen, also obtained at Acapulco, is a little larger and has the elytra rather more distinctly punctured; it is probably a female of the same species.

7. Luperus punctellus.

Black, the three basal joints of the antennæ and the thorax fulvous; elytra opaque, black, finely punctured, the base and the sides with some longitudinal grooves.

Length $2\frac{1}{4}$ lines.

Head rather elongate, the vertex black, shining; the frontal tubercles strongly raised, trigonate; the clypeus with a distinct central ridge, its anterior margin straight; labrum broad, black; the apices of the mandibles fulvous; antennæ black (the terminal three joints wanting), the basal joints below, and the following two joints entirely, fulvous, the third joint one half longer than the second; thorax subquadrate, one half broader than long, the sides a little rounded, constricted near the extreme base, the angles slightly oblique, the posterior ones somewhat produced outwards, the surface impunctate, with a very small fovea on each side, fulvous, shining; elytra rather depressed, each with two short longitudinal depressions (divided by a short longitudinal ridge) placed immediately below the base and a longer depression below the shoulder, the latter gradually increasing in depth and ending below the middle, the punctuation arranged in close irregular lines and consisting of distinct and smaller impressions; the underside and the legs black; the first joint of the posterior tarsi as long as the following three joints together; claws appendiculate.

Hab. MEXICO, Pinos Altos in Chihuahua (*Buchan-Hepburn*).

A single specimen, probably a female.

8. Luperus albomarginatus.

Testaceous, the base of the head, the antennæ, the tibiæ, and tarsi black; thorax fulvous; elytra black, finely punctured, the sutural and the lateral margins, narrowly, yellowish-white; breast piceous.

Length 2 lines.

Head flavous, the vertex piceous; the frontal tubercles distinct, but not very strongly raised; the clypeus broadly triangular; the labrum piceous; the palpi rather robust, piceous; antennæ two thirds the length of the body, black, the third joint twice as long as the second; thorax scarcely broader than long, the sides nearly straight, the surface impunctate, with two shallow impressions on the middle of the disc; scutellum black; elytra finely and distinctly but not very closely punctured, black, narrowly margined

(except at the base) with yellowish-white; femora flavous, the knees and the tibiæ and tarsi black; the first joint of the posterior tarsi as long as the following three joints together; the posterior tibiæ mucronate; claws appendiculate.

Hab. GUATEMALA, Zapote (*Champion*).

The single specimen obtained differs from any of its allies by the colour of the elytra.

9. Luperus dissimilis.

Obscure æneous, the lower joints of the antennæ and the legs more or less fulvous; thorax bifoveolate; elytra extremely closely and finely punctured, slightly rugose.

Var. Thorax flavous.

Length $1\frac{3}{4}$–2 lines.

Head impunctate, metallic greenish or æneous; the frontal tubercles strongly raised, divided anteriorly by the blunt apex of the clypeus; antennæ half the length of the body, obscure fulvous, each joint stained with fuscous at the apex, the third joint twice as long as the second; thorax scarcely broader than long, the sides rounded before the middle, constricted at the base, the surface somewhat convex, with a few fine punctures, and a round fovea on each side; elytra with a very shallow sutural depression below the base, obscure æneous, the shoulders somewhat prominent and angular, the surface extremely closely and finely punctured, the interstices slightly rugose; legs flavous, the femora more or less stained with piceous; the first joint of the posterior tarsi as long as the following two joints together; claws appendiculate; prosternum very narrow, but distinct; the anterior coxal cavities open.

Hab. MEXICO, Chihuahua city, Jalapa, Morelia in Michoacan, Mexico city (*Höge*), Guanajuato (*Sallé*).

Many examples. *L. dissimilis* seems very closely allied to *L. torquatus*, Lec., of which Dr. Horn has kindly sent me some specimens for examination, but differs in the elytral sculpture, the punctuation being closer and more irregular and consisting of small and still smaller impressions; in *L. torquatus* the punctures are finer and more scattered, and the interspaces are very minutely granulate. Most of the specimens of *L. dissimilis* are entirely bronze-coloured; in some examples the thorax is flavous, and intermediate degrees are also not wanting. Two specimens from Morelia are more convex and widened posteriorly and apparently more strongly punctured, though not differing in other respects.

10. Luperus modestus.

Obscure testaceous, the antennæ and legs piceous; thorax and elytra very finely punctured.

Length $1\frac{1}{2}$–2 lines.

Head not visibly punctured; the frontal tubercles strongly marked, transverse; eyes large and prominent; palpi piceous, the penultimate joint strongly incrassate; antennæ two thirds the length of the body, piceous, the basal joints sometimes more or less fulvous, the third joint twice as long as the second but slightly shorter than the fourth joint; thorax about one half broader than long, the sides very slightly rounded, the anterior angles not prominent and each furnished with a single long hair, the surface extremely finely and irregularly punctured; elytra rather more distinctly punctured than the thorax, the punctuation somewhat arranged in closely approached rows, the epipleuræ extending below the middle; tibiæ piceous, the posterior pair armed with a small spine; the first joint of the posterior tarsi rather longer than the following two joints together; claws appendiculate; anterior coxal cavities open.

Hab. PANAMA, Boquete in Chiriqui 3500 feet (*Champion*).

Of a uniformly dull testaceous colour, the upper surface shining; the pygidium in the female insect extending beyond the apex of the elytra. Many specimens.

11. Luperus flavo-femoratus.

Flavous, the antennæ obscure fuscous, the knees, tibiæ, and tarsi black, the upper surface pale yellowish-brown, shining; thorax impunctate; elytra finely punctured.

Length 2–2½ lines.

Head impunctate; the frontal tubercles distinct; eyes large; antennæ more than half the length of the body, fulvous, the intermediate joints more or less fuscous, the third joint more than twice the length of the second; thorax subquadrate, about one half broader than long, the sides narrowed at the base, slightly rounded in front, the disc impunctate, flavous; elytra slightly darker than the thorax (of a browner tint) and very shining, very finely and closely punctured; underside flavous; the knees and the tibiæ black, covered with yellow pubescence, the tarsi obscure fuscous or fulvous; the first joint of the posterior tarsi as long as the following three joints together; all the tibiæ mucronate; claws appendiculate.

Hab. GUATEMALA, Volcan de Atitlan 2500 to 3500 feet (*Champion*).

The present insect, although rather larger and of more robust appearance than is generally the case in *Luperus*, has all the structural characters of the genus.

ORŒTES.

Head broad; the penultimate joint of the palpi incrassate; antennæ filiform, deformed in the male, the second and third joints short; thorax transversely subquadrate, the surface deeply depressed; elytra irregularly punctured, their epipleuræ obsolete below the middle; the posterior tibiæ with a short spine; the intermediate tibiæ notched near the apex in the male; the first joint of the posterior tarsi rather longer than the following three joints united; claws appendiculate; the anterior coxal cavities open.

This new genus, which should be placed near *Luperus*, is separated from any of the genera composing this section by the broad head and the depressed thorax, and by the elytral epipleuræ being obsolete below the middle; the male insect is further distinguished by the structure of the antennæ, and by the intermediate tibiæ being notched near the apex.

I include in it a single species from Nicaragua and Panama.

1. Orœtes flavicollis. (Tab. XXXIII. fig. 4, ♂.)

Flavous, the antennæ (the basal four joints in the male, the basal two in the female, excepted) black; elytra finely punctured, irregularly depressed, dark violaceous-blue, the lateral margins anteriorly flavous.

♂. Antennæ with the third joint transverse, the fourth joint flattened and widened; thorax with a conical tubercle in the middle; the intermediate tibiæ notched at the apex.

Length 2 lines.

♂. Head broader than long, impunctate; the vertex swollen, divided by a central groove; the clypeus broad and flattened, separated from the sides of the face by a flattened space; antennæ nearly as long as the body, the first joint incrassate, the second joint very short, the third transverse, flattened, its inner apical angle produced into a tooth, the fourth securiform, flattened, the following joints elongate, pubescent; thorax twice as broad as long, the sides narrowed towards the base, the anterior margin slightly produced in the middle, the surface deeply depressed, with a tubercle at the centre of the depression (the tubercle impressed in the middle), the disc impunctate; scutellum triangular, flavous; elytra dark metallic violaceous, finely punctured, with some shallow irregular depressions, the lateral margin from the base to the

middle narrowly flavous; underside and the legs flavous; the intermediate tibiæ with a small notch near the apex.

Hab. NICARAGUA, Chontales (*Janson*); PANAMA, Bugaba, David (*Champion*).

The female differs from the male in the simple, not deformed, antennæ, these organs having the basal two joints only flavous; the third joint is slightly longer than the second, and the first joint is less thickened than is the case in the male insect; and the thorax is simply transversely sulcate on the disc and devoid of the tubercle. In all the specimens before me the thoracic tubercle of the male has at its extremity a small round impression. An example from Bugaba is figured.

METACYCLA.

Metacycla, Baly, Journ. Entom. i. p. 206 (1861).
Gastrogyna, Leconte, Proc. Ac. Phil. 1865, p. 210.

The female of *Metacycla* differs from the male in the abdomen being enormously developed and only partially covered by the elytra. The genus has hitherto contained three species only—one from California, one from Mexico, and one from Guatemala; two others are now added.

1. **Metacycla sallæi.**

Metacycla salléi, Baly, Journ. Entom. i. p. 206[1].

Hab. MEXICO[1], Oaxaca (*Höge*), Tehuantepec, Juquila, Chabao (*Sallé*).—? PERU (*coll. Jacoby*).

Closely allied to *M. marginata*, but differing in the black thorax, and in the want of a fulvous elytral margin and similarly-coloured spots on the abdomen of the female; in this sex the abdominal segments are more or less margined with fulvous, but not spotted. Two specimens contained in my own collection, and labelled "Peru," do not seem to differ from the Mexican examples.

2. **Metacycla marginata.** (Tab. XXXIV. figg. 1, 2.)

Metacycla marginata, Chap. Gen. Col. xi. p. 213, note 1 (1875)[1].

Hab. GUATEMALA[1], Dueñas (*Champion*).

3. **Metacycla cæruleipennis.** (Tab. XXXIV. fig. 3.)

Black; thorax flavous, impunctate; elytra dark metallic blue, finely and closely punctured.
♀. Abdomen greatly inflated, the lateral margins fulvous.
Length 2½–3 lines.

Hab. MEXICO, Chabao, Juquila, Panistlahuaca (*Sallé*), Jalapa (*Höge*).

I am compelled to separate this insect from *M. sallæi* and *M. marginata* on account of the following differences:—the thorax is fulvous (instead of black as in *M. sallæi*), and the elytra are rather more finely punctured and of a bluish-plumbeous tint. More than a dozen specimens before me agree in these differences and show no intermediate stages. In *M. marginata* the elytra are rugose-punctate and margined with ferruginous. I am, however, unable to separate satisfactorily the female of the present insect (a single specimen only of this sex is before me) from that of *M. sallæi*; it seems to differ only in the flavous thorax.

4. **Metacycla robusta.** (Tab. XXXIV. fig. 4.)

Ovate, strongly dilated posteriorly, fulvous; antennæ black, the basal (and sometimes the apical) joints fulvous; thorax strongly transverse; elytra black, finely and closely punctured, depressed below the base.
Length 3 lines.

Hab. COSTA RICA (*Van Patten*); PANAMA, Bugaba (*Champion*).

I have placed this species in *Metacycla* because it possesses all the characters peculiar to that genus; the thorax, however, is much more transverse in shape, and the elytra are remarkably widened and convex. In one specimen (from Bugaba) the first four and the last two joints of the antennæ are fulvous, in the other example the basal joint only is of that colour. The thorax is at least three times broader than long and impunctate, the sides are slightly, and the posterior margin distinctly, rounded; the elytra are very shining, black, closely punctured, and have a depression below the base, and their epipleuræ are continued below the middle; the posterior tibiæ are armed with a small spine; the first joint of the posterior tarsi is as long as the following two joints together; and the prosternum is very narrow, but distinct between the coxæ. In one specimen (probably the male) the last abdominal segment is sinuate at its outer margin, in the other it is simple; both examples have the same robust and dilated appearance.

PLATYMORPHA.

Body elongate; antennæ longer than the body, the second and third joints extremely short, the other joints elongate-triangular; thorax subquadrate, the disc depressed; elytral epipleuræ continued below the middle; the posterior tibiæ mucronate; the first joint of the posterior tarsi as long as the following three joints together; claws appendiculate; the anterior coxal cavities open. Anterior tibiæ and the first joint of the anterior tarsi strongly dilated in the typical species in the male.

Type *Platymorpha variegata*.

In general appearance *Platymorpha* agrees with *Chthoneis*; the third joint of the antennæ, however, is extremely small, and the posterior tibiæ are armed with a spine The last-named character proves the affinity of *Platymorpha* with *Luperus* and its allies. I probably have only male specimens of *P. variegata* before me; these are at once

distinguished by the curious dilatation of the anterior tibiæ and of the first joint of the anterior tarsi.

The two species I refer to this genus inhabit Mexico or Guatemala.

1. **Platymorpha variegata.** (Tab. XXXIV. fig. 5.)

Fulvous; antennæ, the femora above, and the tibiæ, black; elytra scarcely visibly punctured, black, the extreme lateral margins and the apices fulvous.

Var. Elytra fulvous, each with two small black spots.

♂. Antennæ with the joints widened, the anterior tibiæ much widened and flattened at the apex, and the first joint of the anterior tarsi strongly dilated.

Length 3 lines.

Head impunctate, reddish-fulvous, the frontal tubercles indistinct; antennæ longer than the body, black, the second and third joints extremely short, the following joints elongate, the eighth joint triangularly widened; thorax twice as broad as long, its surface subdepressed, microscopically punctured, reddish-fulvous; scutellum fulvous; elytra scarcely more distinctly punctured than the thorax, black, the extreme basal and lateral margins and the apices fulvous; femora fulvous, their upper edge marked with black.

Hab. MEXICO, Yolotepec (*Sallé*); GUATEMALA, Capetillo (*Champion*).

Of the variety there are two specimens before me; these only differ from the typical form in the elytra being pale fulvous in colour, with a small black spot placed at the shoulder and a more transversely-shaped one at the middle.

2. **Platymorpha smaragdipennis.** (Tab. XXXIV. fig. 6.)

Chthoneis smaragdipennis, Jac. P. Z. S. 1879, p. 786[1].

Hab. GUATEMALA, Panajachel, Capetillo[1], San Gerónimo (*Champion*).

A careful examination of additional examples of this species has proved to me that the posterior tibiæ are armed with a small spine; the insect in consequence is wrongly placed in *Chthoneis*. The second and third joints of the antennæ are very small, and the thorax is deeply depressed on the disc and to a less extent near the anterior margin. The male differs from that of *P. variegata* in having simple anterior tibiæ and tarsi; it has the antennæ, however, as long as in that species. The colour of the elytra is bright metallic green and their surface is rugosely punctured throughout.

PTELEON.

Elongate; antennæ with short subtriangular joints; thorax transversely subquadrate; scutellum broad, its apex broadly rounded; elytra irregularly punctured, their epipleuræ continued below the middle; legs robust; all the tibiæ armed with a spine; the first joint of the posterior tarsi scarcely longer than the second joint; claws appendiculate; the anterior coxal cavities open.

Type *Pteleon semicæruleus.*

The spine at the apex of the tibiæ and the short subtriangular joints of the antennæ are the chief characters by which *Pteleon* is separated from *Metacycla*; the first joint of the posterior tarsi is also shorter than is the case in *Metacycla*.

1. **Pteleon semicæruleus.** (Tab. XXXIV. figgs. 7, 8.)

Black; thorax scarcely visibly punctured; elytra dark blue, closely punctured, the interstices minutely granulate and semirugose.

Var. Thorax fulvous.

Length 2–2½ lines.

♂. Head broader than long; the eyes very prominent; the frontal tubercles strongly raised, transversely oblique; clypeus narrowly transverse; labrum piceous; antennæ black, scarcely half the length of the body, the third joint one half longer than the second, each of the following joints nearly equal in length to the third; thorax nearly twice as broad as long, the sides rounded before the middle, narrowed near the base, the anterior and posterior margins straight, the surface with a few fine scattered punctures, and a small but deep round fovea on each side; elytra parallel, the shoulders somewhat prominent, closely punctured, the interstices minutely granulate.

Hab. MEXICO, Tacambaro in Michoacan, Matamoros Izucar in Puebla (*Höge*).

The female is larger and very much broader than the male, and is somewhat flattened above; the thorax is without foveæ; and the elytra are more closely and finely rugose. The elytra are sometimes of a greenish or very dark purplish colour.

All our female examples but one belong to the variety.

***** *Tibiæ unarmed.*

CNEORANE.

Cneorane, Baly, Ent. Monthly Mag. ii. p. 97 (1865).

No species from the New World has hitherto been ascribed to this genus; two, however, received from our region, agree closely in every particular with the characters attributed to *Cneorane* by the author, and I accordingly include them in it.

The few described species of *Cneorane* are from India, Japan, and the Cape of Good Hope; the two now added are both from Mexico.

1. **Cneorane nigricornis.** (Tab. XXXIV. fig. 9.)

Black, the head, thorax, and femora fulvous; elytra dark violaceous, very finely and closely punctured.

Length 3 lines.

Head impunctate; eyes large; the frontal tubercles strongly raised, transversely trigonate; the anterior edge of the clypeus straight; palpi slender, piceous; antennæ black, the third joint twice as long as the second but shorter than the fourth; thorax subquadrate, the sides straight at the base, very little rounded in front, the angles simple, not produced, the surface rather flattened near the base, more convex anteriorly, and without punctures; scutellum black; elytra parallel, dark metallic violaceous, very finely and closely punctured, the interstices slightly rugose, the epipleuræ continued nearly to the apex; femora fulvous; tibiæ and tarsi black, the former unarmed; claws appendiculate; anterior coxal cavities open.

Hab. MEXICO, Durango (*Höge*). One specimen.

C. nigricornis bears a remarkable resemblance to *C. elegans*, Baly, from Japan, with which it agrees in size and coloration; the thorax is, however, less transverse, and the elytra are more finely punctured; the first joint of the posterior tarsi is as long as the following two joints together.

2. **Cneorane mexicana.** (Tab. XXXIV. fig. 10.)

Fulvous; antennæ (the basal joints excepted), and the tibiæ at the apex, black; thorax subquadrate, finely punctured; elytra closely semirugose-punctate.

Length 3½ lines.

Head without punctures; the frontal tubercles strongly raised, trigonate; labrum piceous; antennæ robust, black, the basal or the first two joints fulvous, the third joint one half shorter than the fourth; thorax subquadrate, rather broader than long, the sides slightly rounded before the middle and somewhat narrowed towards the base, the surface rather convex, distantly and finely punctured; scutellum broad, fulvous; elytra of the same reddish-fulvous colour as the thorax (in some specimens with a slight purplish reflection), closely punctured, the interspaces towards the sides finely rugose, the epipleuræ extending nearly to the apex; legs robust; the femora fulvous; the tibiæ unarmed, piceous towards the apex; the first joint of the posterior tarsi as long as the following two joints together; claws appendiculate; the anterior coxal cavities open.

Hab. Mexico, Cerro de Plumas, Oaxaca (*Höge*).

METACORYNA.

Body oblong; eyes moderate; palpi filiform; antennæ with the intermediate joints transverse, the eighth (or ninth) joint enormously developed and pear-shaped; thorax transversely subquadrate, the angles not produced; elytra convex, irregularly punctured, their epipleuræ continued below the middle; legs slender; tibiæ simple, unarmed; the first joint of the posterior tarsi as long as the following two joints together; claws appendiculate; the anterior coxal cavities open.

Type *Metacoryna fulvicollis.*

The structural characters, including the curious development of some of the joints of the antennæ, of *Metacoryna* agree with those of the tenth group of Chapuis's arrangement, the "Cerophysinæ." In the typical form of *Metacoryna* the size of the eighth antennal joint is proportionately enormous, but in one of the other species it is less developed; and although all the specimens I have for examination agree with each other in this respect, I am unable to say whether this structure is peculiar to the male insect only.

I include three species from Mexico or Guatemala in this genus.

1. **Metacoryna fulvicollis.** (Tab. XXXIII. fig. 3, ♂.)

Black; head and thorax fulvous, impunctate; elytra dark blue, submetallic, extremely finely punctured.

Length 3 lines.

Head impunctate; the frontal tubercles broadly transverse; labrum and palpi piceous; antennæ black, the three basal joints testaceous below, the fifth, sixth, and seventh joints transverse, the eighth joint pear-shaped, enormously dilated and swollen, and deeply foveolate beneath, the ninth joint transversely subquadrate, thickened, the apical joints small and of normal shape; thorax twice as broad as long, the sides rounded before the middle, the angles distinct but not produced, the surface very obsoletely flattened near the base, not visibly punctured, fulvous, opaque; scutellum triangular, black; elytra very finely and closely punctured, dark blue, submetallic; underside and legs black.

Hab. Mexico, Tupataro (*Sallé*), Acapulco (*Höge*).

The specimen from Tupataro is figured.

2. **Metacoryna fulvipes.** (Tab. XXXIV. fig. 11.)

Black; the head, the basal joints of the antennæ, the thorax, and legs fulvous; elytra dark metallic blue, closely punctured.

♂. Antennæ with the eighth and ninth joints strongly swollen.

Length 2 lines.

Hab. MEXICO, Guanajuato (*Sallé*).

Much smaller than *M. fulvicollis*; the five or six basal joints of the antennæ fulvous and much less transverse, the swollen joints proportionately smaller; the elytra rather more strongly punctured and slightly rugose; the legs fulvous.

3. **Metacoryna guatemalensis.**

Black, the head, thorax, and legs testaceous; the ninth joint of the antennæ greatly swollen and widened, pear-shaped; elytra greenish-æneous.

Length 2 lines.

The vertex of the head piceous, impunctate, the lower portion fulvous; the frontal tubercles very distinct, broadly trigonate; labrum piceous; antennæ black, the two lower joints testaceous beneath, the second and third joints nearly equal, the following joints more or less triangularly widened, the ninth joint greatly swollen and enlarged, its upper surface deeply channelled, the terminal joint elongate and pointed; thorax about twice broader than long, the sides rounded at the middle, the posterior angles distinct, somewhat obliquely shaped at the sides, the surface impunctate, shining, testaceous; elytra extremely finely and sparingly punctured, the punctures placed in indistinct rows which are a little more plainly marked near the suture, the apices almost impunctate.

Hab. GUATEMALA, Calderas 6000 feet (*Champion*).

In *M. guatemalensis* the ninth antennal joint only is strongly enlarged: this is the only structural difference I can find between this and the preceding species, and it is not sufficient to justify its separation from the genus.

SCELIDA.

Scelida, Chapuis, Gen. Col. xi. p. 184 (1875).

Only a single species from Guatemala was known to the author of this genus; we are now acquainted with seven others. *Scelida* contains species of comparatively large size, nearly all of which are of metallic colour. The genus is characterized by the nearly subquadrate thorax, the unarmed tibiæ, and the open anterior coxal cavities, as well as by the narrow elytral epipleuræ which extend nearly to the apex. So far as at present known *Scelida* is confined to Central America, where it ranges from Mexico to the State of Panama.

1. **Scelida viridis.** (Tab. XXXIV. fig. 12.)

Scelida viridis, Jac. P. Z. S. 1879, p. 787[1].

Hab. MEXICO[1] (*coll. Jacoby*).

This species, of which a male and a female specimen are contained in my collection,

is of a more slender shape than usual, and has the thorax proportionately narrower. The elytra are green or blue, finely rugose, with traces of narrowly raised longitudinal lines in the male. The metallic green under surface covered with yellowish pubescence is a character which at once separates *S. viridis* from any of its allies except *S. bella*.

2. **Scelida (?) antennata.** (Tab. XXXIV. fig. 13.)

Piceous below; the lower part of the head and the thorax fulvous; antennæ with the apical joints widened; elytra metallic green, rugosely punctured.

Length 3 lines.

Head elongate, distinctly longer than broad, the upper portion greenish-piceous, this colour surrounding a fulvous spot, the lower part of the face flavous; antennæ black, the three basal joints testaceous below, pubescent, the third joint one half longer than the second, the fifth to the tenth joints slightly curved and widened in the middle; thorax subquadrate, one half broader than long, the surface finely punctured, bright flavous, shining; elytra elongate, parallel, bright metallic green, very closely punctured and transversely rugose; underside piceous, with a slight purplish gloss, clothed with whitish pubescence; the coxæ fulvous, the anterior pair black at the base; the posterior femora rather stout; the first joint of the posterior tarsi as long as the following two joints together.

Hab. Mexico, Juquila (*Höge*).

A single specimen. *S. antennata* differs from any of its allies in the shape of the joints of the antennæ and in the rather thickened posterior femora; the latter, however, are not so stout as they are in the Halticinæ. This species should probably be placed in another genus.

3. **Scelida glabrata.** (Tab. XXXIV. fig. 14.)

Flavous, the terminal four joints of the antennæ fuscous; head and thorax impunctate; elytra metallic green, entirely impunctate.

Length $4\frac{1}{2}$ lines.

Hab. Mexico, Capulalpam (*Sallé*).

The entirely impunctate upper surface of this species, of which a single specimen only is before me, distinguishes it at once from any of its allies; in structural details it does not differ.

4. **Scelida rugosa.** (Tab. XXXIII. fig. 8.)

Reddish-fulvous, the terminal joints of the antennæ and the tarsi fuscous; thorax sparingly punctured, subquadrate; elytra dark metallic green, coarsely rugose and wrinkled.

Length 4 lines.

Head impunctate; labrum testaceous; palpi piceous; antennæ half the length of the body, the five lower joints testaceous, the rest fuscous, the fourth joint slightly longer than the preceding and the following joints; thorax slightly broader than long, the sides nearly straight, very slightly narrowed towards the base, the surface flat, with two obsolete foveæ at the sides, and furnished with a few fine punctures; scutellum fulvous; elytra parallel, subcylindrical, the entire surface strongly rugose and transversely or longitudinally wrinkled, the interstices impunctate; underside and femora fulvous, the knees and the tibiæ testaceous, the tarsi fuscous.

Hab. Mexico, San Miguel del Rio (*Sallé*).

Of this interesting species there is also but a single specimen contained in the Sallé collection. The rugose sculpture of the elytra of *S. rugosa* is a rare exception amongst the Galerucinæ, and entirely in opposition to the smooth and impunctate surface of the preceding species.

5. **Scelida elegans.** (Tab. XXXIV. fig. 15.)

Scelida elegans, Chap. Gen. Col. xi. p. 184, note 1[1].

Hab. GUATEMALA [1], near the city (*Salvin*).

S. elegans served Chapuis for the establishment of the genus, and may be known from its allies by the flavous colour of the head, thorax, underside, and legs, the bluish elytra, and their exceedingly close and distinct punctuation. The specimen in my collection measures 5 lines. Mr. Champion does not appear to have met with this or the following species.

6. **Scelida balyi.**

Scelida balyi, Jac. P. Z. S. 1878, p. 993[1].

Hab. GUATEMALA, Aceytuno (*Salvin*).

The locality of this species was, through an oversight, not given by me at the time of publication [1]. Only a single specimen was obtained by Mr. Salvin. *S. balyi* differs greatly from any of the preceding forms by the black vertex of the head and the similarly coloured spots on the coxæ; and also by the shape of the mesosternum, the sides of which are conically raised and produced into a point.

7. **Scelida bella.** (Tab. XXXIII. fig. 9.)

Metallic green, the head, antennæ, thorax, and legs flavous; elytra metallic cupreous, finely rugosely-punctate. Length 4 lines.

Head impunctate; antennæ more than half the length of the body, flavous, the fourth joint slightly longer than the third; thorax quadrate, narrowed towards the base, the surface flat, with two obsolete foveæ, entirely impunctate; scutellum broader than long; elytra closely and finely rugose and punctured, of a metallic reddish-cupreous colour; underside metallic green, covered with yellow pubescence, the anterior portion of the breast and the legs flavous; the first joint of the posterior tarsi as long as the following two joints together.

Hab. PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

S. bella agrees with *S. viridis* in the colour and clothing of the under surface; but differs in the colour of the elytra, the shape of the thorax, and the less elongate first joint of the posterior tarsi.

8. **Scelida metallica.** (Tab. XXXIII. fig. 10.)

Metallic blue or green, the basal joints of the antennæ, the head, thorax, and legs fulvous; elytra scarcely visibly punctured, the basal portion raised.

Length 3–4 lines.

Head impunctate; antennæ slender, the apical joints fuscous, the five basal joints fulvous, the third joint one half smaller than the fourth; thorax subquadrate, one half broader than long, the sides straight,

converging in front, the surface obsoletely depressed, impunctate; scutellum fulvous or piceous; elytra with the basal portion raised, very bright metallic blue or greenish, with a few extremely fine punctures; underside metallic blue, the sides of the breast pubescent; legs fulvous; the first joint of the posterior tarsi as long as the following three joints together.

Hab. MEXICO, Tuxtla, Cordova, Vera Cruz (*Sallé*), Oaxaca (*Höge*).

Easily separated from any other species of *Scelida* by the metallic under surface, and by the sculpture and polish and beautiful blue colour of the elytra.

We figure a specimen from Oaxaca.

SCELIDOPSIS.

Body elongate; antennæ filiform, the third joint much longer than the second; thorax subquadrate, longitudinally and transversely depressed; elytra opaque, their epipleuræ broad and extending to the apex; legs slender, unarmed; the first joint of the posterior tarsi longer than the following three joints together; claws appendiculate; the anterior coxal cavities open.

Type *Scelidopsis rufo-femorata.*

Scelidopsis is evidently closely allied to the genus *Scelida*, on account of the unarmed tibiæ, the long posterior metatarsus, and the open anterior coxal cavities; there is, however, a great difference in the shape and structure of the thorax, the latter in *Scelidopsis* being more quadrate and not constricted at the base. The surface of the thorax is (at least in one sex) deeply marked with longitudinal and transverse depressions, calling to mind the Eastern genus *Sastra*; and the elytral epipleuræ are much broader and more concave than in *Scelida*, in which they are very narrow. The opaque and impunctate elytra seems to be another character of *Scelidopsis*.

I include three species in this genus, all from Central America.

1. Scelidopsis rufo-femorata.

Rufous, the antennæ, knees, tibiæ, and tarsi black; thorax impunctate; elytra opaque, impunctate, dark purplish.

Length $2\frac{1}{2}$ lines.

Head impunctate, rufous; the frontal tubercles strongly raised; antennæ more than half the length of the body, black, the third and fourth joints slender, nearly equal; thorax subquadrate, the sides nearly straight, scarcely narrowed at the base, the surface shining, impunctate, with two rounded foveæ near the anterior margin and a deep transverse sulcation near the base, the sulcation limited at the sides by a deep oblique groove which extends nearly halfway up each side of the disc; scutellum fulvous; elytra entirely opaque, without any punctuation (extremely finely granulate when seen under a strong lens), of a purplish or bluish-violaceous tint; underside and the femora (with the exception of the apex of the latter) rufous or fulvous.

Hab. MEXICO, Cordova, Toxpam (*Sallé*).

2. Scelidopsis subcostata. (Tab. XXXIII. fig. 2.)

Black, the head, antennæ, and thorax rufous; elytra opaque, impunctate, dark bluish, with a short costa at the sides.

Length 3 lines.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

The only specimen obtained by Mr. Champion differs in the following way from *S. rufo-femorata*: the underside and the legs are black, the antennæ are entirely rufous, and the elytra have the shoulders acutely raised in the shape of a short costa which terminates before the middle; all the rest agrees with *S. rufo-femorata*.

3. Scelidopsis guatemalensis.

Black, the head, thorax, and scutellum rufous; elytra dark bluish, opaque, impunctate.
♀ (?). The thorax without discoidal depressions.
Length 3 lines.

Hab. GUATEMALA, Sinanja in Vera Paz (*Champion*).

Two examples. *S. guatemalensis* differs from *S. rufo-femorata* in the black underside and similarly-coloured legs (the base of the anterior femora in one specimen, however, is rufous); and from *S. subcostata* in the colour of the antennæ, and in the want of the elytral costa. Whether the specimen without thoracic depressions represents another species or the female sex of *S. guatemalensis* I am unable to say. Both examples were obtained at the same locality, and, except in the sculpture of the thorax, agree perfectly with each other.

The typical specimen has the depressions on the thorax as in the two preceding species.

CHTHONEIS.

Chthoneis, Baly, Ent. Monthly Mag. i. p. 135 (1864).

Chthoneis possesses most of the structural characters of *Scelida*, but may generally be distinguished from that genus by the short second and third joints of the antennæ and the more transversely shaped thorax; one species is further distinguished by the dilated intermediate joints of the antennæ in the male insect.

The few species known are from Central or South America; one only was known to the author of the genus.

The insect described by me under the name of *Chthoneis smaragdipennis* (P. Z. S. 1879, p. 786) is here referred to another genus.

1. Chthoneis jansoni.

Chthoneis jansoni, Jac. P. Z. S. 1879, p. 786[1].

Var. Head black; the basal as well as the apical joints of the antennæ flavous.

Hab. MEXICO, Cordova, Toxpam, Cosamaloapam (*Sallé*), Jalapa (*Höge*); NICARAGUA, Chontales (*Janson*[1], *Belt*); PANAMA, Bugaba, Volcan de Chiriqui, David (*Champion*).

Since the description of this species was published, a great many more specimens have been received; amongst these are some which have the head black. The antennæ in the male insect are considerably longer than, in the female only as long as, the body;

the elytra vary in colour from dark blue to violet and green, and are finely rugosely punctured.

C. jansoni has been found in abundance by Mr. Champion in the vicinity of the coffee-plantations on the slope of the Volcan de Chiriqui, at an elevation of 3000 feet.

2. **Chthoneis dilaticornis.** (Tab. XXXIII. fig. 24, ♂.)

Black; thorax flavous, impunctate; elytra dark violaceous, closely semirugose-punctate.

♂. Antennæ as long as the body, the intermediate joints dilated, the fifth and sixth joints deformed.

Length 3 lines.

♂. Narrowly elongate; the head black, shining, impunctate; the frontal tubercles distinct, trigonate; antennæ black, the second and third joints very short and equal, the fifth and sixth joints elongate, hollowed at the middle, the former thickened at the base and the latter at the apex, the following joints irregularly flattened, the apical one terminating in an acute hook-like point; thorax narrowly transverse, the sides but little rounded, the surface impunctate, flavous, shining; elytra dark violaceous, closely punctured and semi-rugose; legs black.

Hab. GUATEMALA, Cerro Zunil (*Champion*).

The female has shorter and simple antennæ.

MIRACES.

Oblong ovate; antennæ subfiliform, the apical joints gradually thickened; thorax transverse, the disc transversely grooved, the sides and the posterior margin rounded; elytral epipleuræ broad at the base, obsolete below the middle; legs rather robust; the tibiæ unarmed; the first joint of the posterior tarsi as long as the following two joints together; claws appendiculate; the anterior coxal cavities open.

I propose the present genus for the reception of a small insect, which is principally distinguished from the allied forms by the distinct transverse groove (extending across the middle of the disc) of the thorax in connection with the unarmed tibiæ and rather stout antennæ. The single species I refer to it inhabits Guatemala and British Honduras.

1. **Miraces æneipennis.** (Tab. XXXIV. fig. 16.)

Piceous below; the head, antennæ, thorax, and legs fulvous; thorax impunctate; elytra dark metallic greenish or purplish, very finely punctured and granulate.

Length 1–1¼ line.

Head obscure æneous or piceous at the vertex, fulvous at the lower portion, the latter rather swollen and impunctate; eyes large; the frontal tubercles trigonate; the clypeus in the shape of a narrow transverse ridge; antennæ scarcely half the length of the body, fulvous, all the joints of nearly the same length, the third joint scarcely longer than the second, the terminal joints gradually and slightly thickened; thorax nearly three times broader than long, the sides rounded and slightly widened at the middle, the anterior margin concave, and parallel with the posterior margin, the surface with a very distinct transverse groove at the middle of the disc, the groove extending nearly to the sides, impunctate, fulvous; scutellum piceous or black; elytra metallic green or æneous, slightly widened posteriorly, with an almost obsolete transverse depression below the base, very minutely granulate and finely punctured; legs fulvous; underside piceous or obscure fulvous.

Hab. BRITISH HONDURAS, R. Hondo (*Blancaneaux*); GUATEMALA, Capetillo, San Gerónimo (*Champion*).

The specimens from Guatemala are larger than those from British Honduras, and one of them has the elytra stained with purplish reflections.

HECATÆUS.

Oblong ovate; antennæ short, the second and third joints small, the following joints subtriangular and gradually widened; thorax subquadrate, the angles slightly prominent, the surface without depressions; elytra irregularly punctured, their epipleuræ very broad at the base and continued below the middle; tibiæ unarmed; the first joint of the posterior tarsi nearly as long as the following three joints together; claws appendiculate; the anterior coxal cavities open.

The short antennæ with subtriangularly widened joints in connection with the unarmed tibiæ do not permit the placing of the small insect for which I propose the present genus in any other yet described. The single species I include in it is from the State of Panama.

1. **Hecatæus nigricollis.** (Tab. XXXIII. fig. 23.)

Black; head impunctate; thorax scarcely visibly punctured; elytra fulvous, a spot surrounding the scutellum and the posterior half black.

Var. Entirely black.

Length 1½ line.

Head impunctate; the frontal tubercles distinct, trigonate; the clypeus with a strongly raised central ridge; antennæ less than half the length of the body, black, pubescent; thorax about one half broader than long, deflexed near the anterior angles, the latter slightly thickened, the lateral and the posterior margins moderately rounded, the surface with a few exceedingly fine punctures at the sides; scutellum black, its apex rounded; elytra a little more strongly punctured than the thorax, the anterior portion to below the middle fulvous, a small spot surrounding the scutellum and the rest of the surface black; underside and the legs black.

Hab. PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).

The variety is of an entirely black colour.

ELYCES.

Oblong; clypeus not separated from the face; antennæ slender, much longer than the body, the third joint longer than the second but much shorter than the fourth; thorax transverse, the angles not produced; elytra irregularly punctured, their epipleuræ continued to the apex; tibiæ simple, unarmed; the first joint of the posterior tarsi as long as the following three joints together; claws appendiculate; anterior coxal cavities open.

The very long and slender antennæ, the head with the lower part formed of a single piece, the transverse thorax, and the unarmed tibiæ separate *Elyces* from any of the numerous genera of Galerucinæ. This genus is perhaps best placed near *Chthoneis* and *Scelida*, in Chapuis's twelfth group.

Four species from Central America are here referred to it.

1. **Elyces nigro-maculatus.** (Tab. XXXIII. fig. 5, ♀.)

Testaceous, the head at the base, the antennæ, and tibiæ black; thorax finely punctured; elytra closely and strongly punctate, a spot at the shoulder, another surrounding the scutellum, and a transverse band below the middle, black.

Length 1¾–2 lines.

Head impunctate, black at the vertex; the lower portion of the face testaceous, forming a plane surface, and impressed with some rather deep punctures; labrum prominent, piceous; palpi with the penultimate joint strongly swollen, piceous; antennæ very long, extending far beyond the elytra, black; thorax more than twice broader than long, the lateral margins very slightly rounded, the surface with a few fine punctures; scutellum testaceous; elytra very closely and distinctly punctured, the spot at the shoulder elongate, the one surrounding the scutellum pointed at the suture, both often connected in the shape of a band, the posterior band wider at the sides than near the suture, and of variable thickness.

Hab. PANAMA, Bugaba, David, Caldera, Tolé (*Champion*).

The spots of the elytra are subject to a good deal of variation as regards shape and size; but there is generally a small space at the base of the ground-colour. In a single specimen the spots form two transverse bands which surround a central transverse testaceous spot, and the apices of the elytra remain testaceous; in this specimen the head is entirely black. An example from David is figured.

2. **Elyces quadri-maculatus.** (Tab. XXXIII. fig. 6, ♂.)

Testaceous, the apical joints of the antennæ, the tibiæ, and tarsi fuscous; thorax sparingly and finely punctured; elytra closely and more strongly punctured, a spot at the shoulder, another near the scutellum, and two spots below the middle, placed transversely, black.

Length 1½–2 lines.

Head entirely testaceous, impunctate; the frontal tubercles well developed; the lower portion of the face with a slightly raised central ridge; antennæ much longer than the body, very thin and slender, fuscous, the three or four lower joints testaceous, the third joint double the length of the second; thorax transverse, the sides slightly rounded at the middle, the surface finely and sparingly punctured; elytra closely covered with small and slightly larger punctures, the interspaces somewhat rugose, each with a small spot at the shoulder, another one below the base near the scutellum, and two small spots immediately below the middle, placed transversely, black.

Hab. PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).

E. quadri-maculatus differs from the preceding species in the entirely testaceous head, the colour of the antennæ, and the spots of the elytra. The posterior spots on the latter are placed more forward than the corresponding band in *E. nigro-maculatus*. In one or two specimens the spots are larger and connected, forming bands; but the testaceous head and the other details pointed out above will separate these forms from *E. nigro-maculatus*.

3. **Elyces obscuro-vittatus.**

Testaceous, the antennæ fuscous; thorax transverse, short, the disc with five almost obsolete spots, finely punctured; elytra more distinctly punctured, each with an obsolete longitudinal subsutural and sublateral band.

Length 1½–2 lines.

Head impunctate, the vertex obscure fuscous, the lower part testaceous; the frontal tubercles distinctly raised, trigonate; the lower portion of the face flattened, forming a single piece with the clypeus; the labrum

piceous; antennæ slender, fuscous, longer than the body; thorax narrowly transverse, the sides nearly straight, the surface remotely and sparingly punctured, with some almost obsolete fuscous spots, of which two are placed near the middle, and three, transversely, near the base; scutellum piceous; elytra narrowly elongate, more distinctly and closely punctured than the thorax, with two almost obsolete narrow longitudinal bands extending from the base to the apex, one placed near the sutural and the other near the lateral margin; the underside and legs obscure, lighter or darker, testaceous.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

In one specimen the elytral bands are scarcely visible. The thorax is narrower and shorter, and its sides straighter than in *E. quadri-maculatus*. The terminal joints of the antennæ in all the specimens are unfortunately broken off, but even the remaining nine joints extend beyond the apex of the elytra. In its general structure *E. obscuro-vittatus* agrees well with *E. quadri-maculatus*.

4. Elyces nigripennis.

Black; head and thorax fulvous, impunctate; elytra black, finely and rather remotely punctured.
Length 1½ line.

Head with a few fine punctures at the vertex, fulvous; the frontal tubercles rather strongly swollen; the clypeus broad and scarcely thickened; the palpi black, their penultimate joint strongly thickened; antennæ black, two thirds the length of the body, the third joint twice as long as the second, the fourth joint the longest; thorax scarcely broader than long, the sides straight, slightly narrowed at the base, the surface rather convex, rather strongly deflexed at the sides, the disc impunctate, fulvous or flavous; scutellum black, rather broad, and obtusely rounded at the apex; elytra a little widened posteriorly, the shoulders but little prominent, the punctuation not very closely arranged.

Hab. GUATEMALA, Las Mercedes, Cerro Zunil, Sabo in Vera Paz (*Champion*).

The specimen from Sabo differs from the others in having the palpi and the scutellum fulvous; and the elytra more finely punctured. *E. nigripennis* is separated from the other species of the genus by the less transverse thorax and the shorter antennæ, but not by any other structural details.

MASURIUS.

Body elongate, subparallel; head broad; clypeus well defined; antennæ long, filiform, pubescent, the third joint more than twice the length of the second; thorax transverse; elytra irregularly punctured, their epipleuræ continued to the apex; tibiæ unarmed; the first joint of the posterior tarsi as long as the following three joints together; claws appendiculate; anterior coxal cavities open.

In general appearance this genus resembles *Elyces*; the antennæ are, however, generally shorter and more robust; the head is differently shaped, and has a distinct clypeus; and the thorax is more transverse. *Masurius* also greatly resembles *Chthoneis*, but cannot be identified therewith on account of the longer third joint and the non-dilated intermediate joints of the antennæ; the thorax is also more transverse than in the typical species of that genus. *Masurius* does not possess well-defined characters, being somewhat intermediate between *Elyces* and *Chthoneis*; nevertheless it would not be advantageous to place the species included in it in either of these genera.

The four species referred to it are all from Central America.

1. Masurius violaceipennis.

Testaceous; the basal and the apical joints of the antennæ fulvous, the other joints black; thorax sparingly punctured, bifoveolate; elytra dark violaceous, finely and closely punctate.

Length 2 lines.

Head broader than long, impunctate; the eyes very prominent; the frontal tubercles very distinct, subquadrate, divided by the apex of the transversely-shaped clypeus; antennæ two thirds the length of the body, black, the first and the last joint fulvous, the third joint scarcely double the length of the second; thorax transverse, three times broader than long, the sides slightly rounded, the angles rather acute and slightly produced, the surface with a few fine punctures, and a round fovea on each side; scutellum testaceous; elytra very closely punctured, dark metallic violaceous, the shoulders bounded within by an elongate depression; the underside and the legs testaceous.

Hab. PANAMA, Bugaba (*Champion*).

M. violaceipennis differs from *M. flavipes* in the entirely testaceous head, and in the colour of the antennæ, elytra, and underside; it is also larger and broader, and the thorax is bifoveolate.

2. Masurius flavicollis.

Piceous, the lower part of the face, the thorax, and the femora flavous, the base of the head black; elytra black, with a slight violaceous tint, closely punctured, and transversely rugose.

Var. Head flavous.

Length 2 lines.

Head impunctate, black; the frontal tubercles distinctly raised, trigonate, flavous; clypeus flavous; labrum and palpi piceous; antennæ as long as the body in the male, shorter in the female, black, pubescent, the third joint shorter than the fourth; thorax twice as broad as long, the sides but little rounded, and slightly narrowed at the base, the angles not prominent, the surface covered with fine scattered punctures, flavous, shining; scutellum black; elytra violaceous-black, closely and distinctly punctured, the interspaces transversely rugose; legs pubescent, the femora flavous, the knees, tibiæ, and tarsi more or less piceous.

Hab. GUATEMALA, Zapote, Mirandilla, Sinanja (*Champion*).

3. Masurius bifasciatus. (Tab. XXXIV. fig. 17.)

Testaceous, the base of the head, the intermediate joints of the antennæ, the breast, and the tibiæ and tarsi black; thorax strongly transverse, scarcely visibly punctured; elytra finely punctured, subopaque, a broad transverse band at the base, another below the middle, and the sutural and apical margins, black.

Length $2\frac{1}{2}$–3 lines.

Head with a few very fine punctures, the vertex black, shining; the frontal tubercles transverse; the lower edge of the clypeus strongly concave-emarginate; palpi robust, piceous; antennæ two thirds the length of the body (♀), the three lower and the eighth to the tenth joints flavous, the others black, the third joint more than twice the length of the second; thorax nearly three times broader than long, the sides slightly rounded before the middle, the angles rather prominent, the surface with an oblique narrow depression near the posterior angles, extremely finely granulate and punctured; scutellum testaceous; elytra very finely and closely punctured, the basal transverse band not extending to the basal margin, its edges sinuate, and its sides broader than the inner portion, the second band of the same shape, and extending to either margin, the latter thence narrowly black to the apex; the breast and the last abdominal segment black; the latter in the male with a short triangular fovea at the middle of the posterior margin.

Hab. PANAMA, Bugaba, David, Caldera in Chiriqui (*Champion*).

I am unable to say anything about the antennæ of the male, as in the two specimens of that sex before me these organs are unfortunately wanting. In the transverse

thorax, unarmed tibiæ, &c., this species approaches *Elyces*. The elytra have often two spots instead of the band at the base, and their lateral margin is black only from the posterior band to the apex.

b. *Anterior coxal cavities closed.*

Tibiæ mucronate.

CEROTOMA.

Cerotoma, Chevrolat in d'Orbigny's Dict. univ. Hist. Nat. iii. p. 342 (1843); Erichson, Archiv für Naturg. 1847, i. p. 169; Leconte, Proc. Acad. Phil. xvii. p. 205 (1865); Suffrian, Archiv für Naturg. 1867, i. p. 317.

Andrector, Horn, Trans. Am. Ent. Soc. iv. p. 152 (1872); Class. Col. N. Amer. p. 348 (1883).

Cerotoma at first sight closely resembles certain species of *Diabrotica*; the closed anterior coxal cavities and the appendiculate (not bifid) claws will, however, at once distinguish it from that genus. The males of nearly all the known species are further distinguished by the abnormal shape of the third joint of the antennæ; this joint is always the longest in both sexes. *Cerotoma* is confined entirely to the New World, but the species are not very numerous; several with open coxal cavities have been included in it by various authors, these species, however, cannot be retained in the genus; on the other hand, *Cerotoma* has been enlarged by a few species which have been erroneously referred to *Diabrotica*.

Four species inhabit our region, one of which appears to be very widely distributed in Tropical America.

1. Cerotoma ruficornis.

Galeruca ruficornis, Oliv. Encycl. Méthod. vi. p. 200 (1791)[1].

Cerotoma ruficornis, Weise, Archiv für Naturg. 1885, i. p. 157, t. 8. f. 6[2].

Galeruca denticornis, Oliv. Ent. vi. p. 659, t. 5. f. 78[3].

Crioceris denticornis, Fabr. Ent. Syst. i. 2, p. 24 (1792); Syst. Eleuth. i. p. 457[4].

Cerotoma denticornis, Jacq.-Duval in Sagra's Hist. fisica polit. y nat. de Cuba, vii. Ins. p. 126, t. 2. f. 8[5]; Suffrian, Archiv für Naturg. 1867, i. p. 317[6].

Cerotoma atro-fasciata, Jac. P. Z. S. 1879, p. 792[7].

Hab. MEXICO, Presidio, Ventanas (*Forrer*), Lagos in Aguas Calientes, Colima city, Zapotlan, Cuernavaca, Jalapa, Chilpancingo, Acapulco (*Höge*), Vera Cruz, Orizaba, Guanajuato, Oaxaca, San Andres Tuxtla (*Sallé*); BRITISH HONDURAS, Belize (*Blancaneaux*); GUATEMALA (*Salvin*[7], *Sallé*), Rio Naranjo, Capetillo, Dueñas, San Gerónimo, El Jicaro, San Joaquin, Sinanja, Chacoj, Cahabon (*Champion*); SALVADOR, La Union (*Champion*); NICARAGUA, Chontales (*Janson*).—VENEZUELA[3 4]; ANTILLES, Cuba[5 6], Porto Rico[2], Guadaloupe[1].

An abundant insect in our region, though apparently not yet received from the State

of Panama, where it appears to be replaced by the very closely allied *C. salvini*. The numerous authors quoted above were evidently not acquainted with the many colour-varieties of this species; the black transverse bands of the elytra are sometimes partially or wholly absent, the elytra being in such cases entirely fulvous or yellow, with the exception of the narrow black basal margin; an opposite extreme of coloration, however, occurs in which the elytra are entirely black, with the exception of the narrow fulvous lateral margin; between these two forms all kinds of intermediate degrees are to be found, but in nearly every instance the small black sutural spot placed near the apex of each elytron is present. The colour of the legs is equally variable. The male of *C. ruficornis* is distinguished by the dilated and deformed third joint of the antennæ. The variety from Porto Rico, figured by Weise[2], is also found in Mexico. *C. atro-fasciata*, Jac.[7], is only one of the numerous varieties with nearly unicolorous elytra.

2. **Cerotoma salvini.** (Tab. XXXIV. fig. 18.)

Cerotoma salvinii, Baly, Trans. Ent. Soc. Lond. 1866, p. 478[1].

Hab. PANAMA (*Salvin*[1], *Boucard*), Bugaba, Volcan de Chiriqui, Caldera, Tolé (*Champion*).

C. salvini, an insect only known as yet from the State of Panama, might easily be mistaken for *C. ruficornis*, to some of the varieties of which it closely approaches in the pattern of the elytra. The structure of the head of the male of *C. salvini* is, however, different from that of *C. ruficornis*: in the latter the clypeus is shaped like a transverse ridge, and has three projecting points (one on each side and one in the middle); in the former this ridge is absent, and at each side of the clypeus a strong spine, curved upwards, is placed—by this character the male may be at once separated from that of the allied species. I know, however, no character by which to distinguish the female of *C. salvini*, unless the pattern of the elytra (that is of the typical form) is taken as such: typical examples may be described as having black elytra, with a rounded spot at the base, a narrow transverse band at the middle, and a short oblique band near the apex, as well as the extreme lateral margins of each, flavous. The legs seem always to be entirely flavous; in *C. ruficornis* the posterior femora are usually black at the apex. The antennæ in *C. salvini* do not differ in structure from those of *C. ruficornis*.

3. **Cerotoma dilatipes.** (Tab. XXXIV. fig. 19.)

Flavous, the breast black, the tibiæ obscure fuscous; thorax impunctate; elytra very closely punctured, each with a narrow transverse band before the middle, connected by a stripe with the shoulder, a Λ-shaped band below the middle, and a small spot at the apex, black.

♂. The anterior tibiæ and the first joint of the anterior tarsi strongly dilated.

Var. Head black, the thorax reddish-fulvous.

Length 2½–3 lines.

Head black at the extreme vertex, impunctate, the lower part of the face and the clypeus forming a nearly flat surface; antennæ slender, flavous, the third joint as long as the first and second joints together; thorax

scarcely broader than long, subquadrate, the surface impunctate; elytra very closely and distinctly punctured, flavous, with the suture anteriorly, a stripe from the shoulder to the anterior transverse band, the latter itself, a Λ-shaped band below the middle, and one or two small spots (one near the lateral, the other at the sutural margin), black; the apex of the posterior femora, the outer edge of the tibiæ, and the tarsi more or less distinctly, fuscous; the underside flavous.

Hab. MEXICO, Presidio (*Forrer*), Colima city, Cuernavaca (*Höge*).

The pattern of the elytra of *C. dilatipes* is again very similar to that of *C. ruficornis*, except that the black posterior band seems to be composed of two oblique spots joined together. In the male the anterior tibiæ are curved and strongly dilated towards the apex, and the first joint of the anterior tarsi forms a broad and flattened surface, the following joints being of normal size; in the female there is no dilatation of these parts, and this sex can only be separated from that of *C. ruficornis* by the shape of the black posterior band of the elytra. A single female specimen, from Colima city, agrees in the pattern of the elytra, but has a black head and a red thorax; in the absence of additional material I look upon this form as a variety of *C. dilatipes*. In another example (also a female), from Cuernavaca, the black markings of the elytra are almost confluent. For the better recognition of *C. dilatipes* I may add that (if present) the short anterior stripe which extends from the basal margin to the anterior transverse band of the elytra is always narrower than in *C. ruficornis*, and distinctly concave on its outer margin, while it is straight in the last-named species.

4. **Cerotoma rogersi.** (Tab. XXXIV. fig. 20.)

Black, the antennæ and legs flavous; thorax rufous; elytra finely punctured, black, each with a spot at the base, another at the apex, a transverse band at the middle, and the lateral margins, flavous.

♂. Antennæ with the third joint strongly widened, its apex deeply concave; lower part of the face flavous.

♀. Antennæ simple; the head entirely black.

Length $2\frac{1}{4}$ lines.

Hab. COSTA RICA, Cache (*Rogers*).

This insect is again closely allied to *C. salvini* and *C. ruficornis*, especially to the former in regard to coloration, but differing in the sculpture of the head of the male. From *C. ruficornis*, which it resembles in the last-named character, the present species is, however, known by the bright red colour of the thorax and the much less strongly and closely punctured elytra; the latter are differently marked, being black, with two spots and a transverse central band yellow. The transverse band is broader than in *C. salvini*, and does not quite extend to the sutural, and rarely to the lateral, margin; the apical spot is rounded, and not in the shape of a short oblique stripe. The clypeus of the male is devoid of the two curved spines which are to be seen in *C. salvini*, and the lower part of the face is bright flavous; while in the female the head is entirely black. The legs are never marked with black as in *C. ruficornis*.

MONOLEPTA.

Monolepta, Erichson, Archiv für Naturg. 1843, i. p. 265.

Numerous species, all inhabitants of the eastern hemisphere, are known of this genus, whose close affinity with *Luperodes* in almost every structural detail is undeniable. The third joint of the antennæ, however, is generally, but not always, shorter than in *Luperodes*, and the anterior coxal cavities are closed; the latter character at present forms the basis of the classification of the Galerucinæ, although it is now known that it may possibly be a guide of very doubtful value. At all events, the numerous species from Central America which are here described under the above generic name have all the characters of *Monolepta*, and had to be separated from *Luperodes* on account of the closed coxal cavities. No species has hitherto been described from the New World.

1. **Monolepta irazuensis.** (Tab. XXXIV. fig. 21.)

Testaceous, a spot on the vertex, the apex of each joint of the antennæ, nine spots on the thorax, and the centre of the breast black; elytra very closely punctured, two spots at the sides, and a short streak below the middle, black.

Length 3 lines.

Head not visibly punctured, testaceous, the vertex with a black triangular spot; antennæ testaceous, each joint spotted with black at the apex, the second joint small, the third joint one half longer than the second; thorax more than twice as broad as long, the surface feebly impressed at the sides, very finely punctured, and slightly wrinkled, with a large spot at the posterior angles, two spots at the middle, two smaller spots at the sides, and an elongate one at the centre of the base, black; scutellum black; elytra parallel, subcylindrical, very finely and closely punctured, the interspaces slightly wrinkled, with a spot at the middle, near the lateral margin, another in the same position near the apex, and a short streak near the suture below the middle, black; the breast at the middle, and a spot at the side of each ventral segment, black, the rest of the underside and the legs testaceous.

Hab. Costa Rica, Volcan de Irazu (*Rogers*).

One specimen.

2. **Monolepta unipunctata.**

Testaceous; antennæ black, the base of each joint testaceous; thorax finely punctured, with nine small black spots; scutellum black; elytra closely and distinctly punctured, testaceous, each with a small black spot near the lateral margin.

Length 3 lines.

Head narrow, impunctate; the vertex with a small piceous spot; eyes very large; antennæ more than half the length of the body, testaceous, the apex of each of the joints black, the third joint one half longer than the second; thorax twice as broad as long, the sides nearly straight, the posterior margin strongly rounded and produced in the middle, the surface closely punctured and slightly wrinkled, with an almost obsolete depression at each side, and nine small black spots—six placed transversely before and three below the middle of the disc; scutellum black; elytra rather convex, narrowed towards the apex, closely covered with larger and smaller punctures, testaceous, each with a small black spot placed at the middle and close to the lateral margin; below and the legs testaceous, the breast margined at the sides and posteriorly with black.

Hab. Guatemala, Panajachel (*Champion*).

M. impunctata is probably a variety of *M. irazuensis*, with smaller thoracic spots, different elytral pattern, and unicolorous underside; in all other respects the two insects agree with each other.

A single specimen, captured on the margin of the lake of Atitlan.

3. **Monolepta bipunctata.**

Testaceous, the intermediate joints of the antennæ fuscous; thorax finely rugose-punctate, obsoletely spotted; elytra closely and finely punctured, a spot at the middle, near the lateral margin, and another near the apex of each, black.

Length 2 lines.

Head rather elongate, with a few fine punctures on the vertex; eyes very large; antennæ half the length of the body, the three lower and the two apical joints fulvous, the rest black, the third joint scarcely longer than the second; thorax twice as broad as long, the sides slightly rounded, the surface finely rugose-punctate, with some very obscure piceous markings; scutellum black; elytra closely and finely punctured, the interstices still more finely so, with a spot at the middle of the sides, and a similar but larger spot near the apex of each, black.

Hab. GUATEMALA, Sinanja, Cerro Zunil (*Champion*).

Two examples. In the specimen from Sinanja the anterior elytral spot is the largest and of transverse shape, but in other respects it agrees with the one from Cerro Zunil.

4. **Monolepta elongata.**

Elongate, testaceous; antennæ (the basal three joints excepted) black; thorax minutely punctured, the lateral margins black; elytra extremely closely punctured, narrowly margined with black.

Length 2 lines.

Head extremely minutely punctured, the vertex with a small black spot; palpi piceous; antennæ more than half the length of the body, the three lower joints testaceous, obscurely stained with piceous, the third joint one half longer than the second; thorax twice as broad as long, all the margins slightly rounded, the sides narrowly black, the surface very finely punctured, with an almost obsolete depression at the sides; scutellum black; elytra narrowly elongate, rather more distinctly punctured than the thorax, the interstices very finely wrinkled, the margins very narrowly black; epipleuræ continued below the middle, the inner margin black; the first joint of the posterior tarsi as long as half the tibiæ.

Hab. MEXICO, Guadalajara in Jalisco, Matamoros Izucar in Puebla (*Höge*), Orizaba (*Sallé*).

Of a more elongate and parallel shape and also larger than *M. subrugosa* and *M. imitans*.

5. **Monolepta chiriquensis.**

Black, the antennæ and legs flavous; head and thorax finely granulate and punctured; thorax obsoletely transversely depressed; elytra closely and rather strongly punctured.

Var. Elytra testaceous.

Length 1½ line.

Head with a few fine punctures, minutely granulate; the frontal tubercles distinct; labrum obscure testaceous; antennæ two thirds the length of the body, flavous, the terminal joints obscure fuscous, the third joint not longer but more slender than the second, the fourth joint twice as long as the second; thorax transverse, nearly three times as broad as long, the sides slightly rounded, the disc with a transverse more or less distinct depression, the surface a little more closely but not more strongly punctured than the head; elytra

slightly widened behind, closely and strongly punctured, the interstices slightly rugose; the first joint of the posterior tarsi much longer than the following three joints together.

Hab. PANAMA, Volcan de Chiriqui 3000 feet (*Champion*).

It is possible that the specimens with testaceous elytra are immature. Many specimens were obtained of both forms.

6. **Monolepta subrugosa.**

Testaceous, the apical joints of the antennæ fuscous; thorax with two depressions, closely punctured, the sides black; elytra closely semirugose-punctate, testaceous, the sutural and lateral margins narrowly black.

Length $1\frac{1}{2}$ line.

Head without punctures, the vertex often with a black spot; the frontal tubercles distinct, divided by the apex of a raised central ridge which extends to the clypeus; antennæ two thirds the length of the body, the six or seven lower joints testaceous, the rest black, the second and third joints short, equal, the fourth joint shorter than the fifth; thorax transverse, the sides straight, the posterior margin rounded, the surface closely and finely punctured and somewhat rugose, the lateral margin with a narrow black band, the disc with a small transverse depression on each side; elytra a little less closely but as finely punctured as the thorax, the interspaces irregularly wrinkled, the suture and the lateral margins very narrowly black.

Hab. GUATEMALA, Cerro Zunil (*Champion*); PANAMA, Volcan de Chiriqui (*Champion*).

This insect resembles unicolorous specimens of *Luperodes apicicornis*, but differs in the short third joint of the antennæ, the colour of the thorax and elytra, and the sculpture of the latter, as well as by the closed anterior coxal cavities.

7. **Monolepta imitans.** (Tab. XXXIV. fig. 22.)

Testaceous; antennæ piceous, the base of each of the joints pale; thorax with the lateral margins and a streak at the middle, piceous; elytra semirugose-punctate, testaceous, the sutural and lateral margins extremely narrowly piceous.

Length $1\frac{1}{2}$ line.

Head minutely granulose and finely but distinctly punctured, the vertex often with a more or less piceous spot; the clypeus with a distinct raised central ridge extending upwards between the frontal tubercles; antennæ two thirds the length of the body, piceous or black, all the joints pale testaceous at the base, the second and third short and equal; thorax twice as broad as long, the sides slightly but evenly rounded, the surface with an obsolete transverse depression, sculptured and punctured like the head, the extreme lateral margins and a narrow central longitudinal streak, piceous; scutellum piceous; elytra subcylindrical, closely and scarcely more distinctly punctured than the thorax, the interspaces very finely wrinkled, the extreme sutural and lateral margins piceous; underside and the legs testaceous.

Hab. MEXICO, near the city (*Höge*); GUATEMALA, near the city, Capetillo, San Gerónimo (*Champion*).

M. imitans greatly resembles *M. subrugosa*, but differs in having the joints of the antennæ shorter and more robust (in *M. subrugosa* they are slender and elongate), in the distinctly punctured head, the central mark of the thorax, and in the piceous margin of the elytra; in *M. subrugosa* the sides of the elytra are more broadly and more distinctly piceous, but this colour does not extend beyond the middle. The elytra in the present species, of which many specimens were obtained, are also more finely punctured than in *M. subrugosa*.

8. **Monolepta panamensis.** (Tab. XXXIV. fig. 23.)

Pale fulvous; thorax minutely punctured, the sides piceous; elytra convex, finely and closely punctured, the suture, a transverse band before and another below the middle, black.

Length 2 lines.

Head with a few fine punctures at the vertex; the eyes very large and prominent; the frontal tubercles trigonate, distinctly raised; antennæ fulvous, rather more than half the length of the body, the third joint about one half longer than the second; thorax transverse, slightly narrowed in front, the posterior margin rounded, the surface very finely and closely punctured, with an obsolete transverse depression on each side, the sides with a more or less distinct piceous longitudinal band; scutellum black; elytra more distinctly punctured than the thorax, with a narrow transverse black band before and a similar one below the middle, the suture anteriorly and the basal margin also narrowly black; legs fulvous; the first joint of the posterior tarsi as long as half the tibiæ.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

The thorax is sometimes devoid of the piceous lateral bands. *M. panamensis* cannot be mistaken for *Luperodes dimidiaticornis*, the latter being smaller and less robust, and differing also in the colour of the antennæ, in the first transverse band of the elytra being placed nearer the base, and in the anterior coxal cavities being open.

9. **Monolepta fulvo-maculata.**

Black, the basal joints of the antennæ and the legs fulvous; thorax testaceous; elytra extremely finely punctured, black, an elongate spot at the shoulder and another near the apex of each, testaceous.

Length $1\frac{1}{2}$–2 lines.

Head finely punctured and minutely granulate, the vertex black, the clypeus fulvous; labrum and palpi piceous; antennæ more than half the length of the body, fuscous, the three lower joints and also the apical one fulvous, the third joint one half longer than the second; thorax twice as broad as long, the posterior margin slightly rounded, the surface scarcely visibly and very closely punctured, obsoletely transversely depressed; scutellum black; elytra scarcely more distinctly punctured than the thorax, each with an elongate testaceous spot at the shoulder and a narrower one near the apex, the latter extending nearly to the suture; legs fulvous.

Hab. MEXICO, Oaxaca (*Sallé*).

The coloration of this species is quite distinct from that of any of the allied forms.

10. **Monolepta triplagiata.**

Fulvous; antennæ, the apices of the femora, the tibiæ and tarsi, black; thorax and elytra reddish-fulvous, the former finely punctured, the latter with two black spots at the base and a transverse band at the middle.

Length $1\frac{1}{2}$ line.

Hab. GUATEMALA, San Juan in Vera Paz (*Champion*).

The third joint of the antennæ is but slightly longer though much more slender than the second; the thorax and the elytra are very closely and finely punctured; the two black spots on the latter are transversely placed immediately below the base, and the central band is very narrow and does not quite reach the sutural nor the lateral margin. The reddish colour of the upper surface and the elytral pattern separate this species from its allies. A single specimen only was obtained.

11. **Monolepta violacea.**

Black; the basal three joints of the antennæ, the head, thorax, and the anterior legs, fulvous; elytra dark violaceous-blue, scarcely visibly punctured.

Length 2–2½ lines.

Head impunctate; the frontal tubercles distinct, trigonate; the clypeus with an acute central ridge; antennæ two thirds the length of the body, black, the three lower joints, and often the base of the fourth joint, fulvous or flavous, the third joint about one half longer than the second; thorax scarcely twice as broad as long, the sides and the posterior margin rounded, the surface with two more or less distinct depressions, not visibly punctured; scutellum black; elytra extremely finely punctured, the interstices extremely minutely granulate; the anterior legs and the intermediate femora fulvous, the rest of the legs and the underside black.

Hab. Mexico, Durango city, Ventanas, Ciudad in Durango (*Höge*).

The elytra in some specimens are nearly black, but in the majority are dark bluish or violaceous, and their punctuation can only be seen under a strong lens; the epipleuræ are continued below the middle. The metatarsus of the posterior legs is nearly half the length of the tibiæ; the latter are armed with a distinct spine.

12. **Monolepta cæruleipennis.**

Black; thorax fulvous, minutely punctured; elytra dark blue, distinctly and closely punctured.

Length 2 lines.

Head bluish-black, finely punctured at the vertex; antennæ black, the third joint twice as long as the second (the apical three joints are broken off); thorax transverse, the sides feebly, the posterior margin distinctly, rounded, the surface very finely punctured, with an almost obsolete depression on each side; elytra rather convex, dark blue, closely and distinctly punctured, the interstices slightly rugose.

Hab. Mexico, Pinos Altos in Chihuahua (*Buchan-Hepburn*).

M. cæruleipennis differs from *M. violacea* in the entirely black head, antennæ, and legs, and in the much more distinctly punctured elytra.

13. **Monolepta velutina.** (Tab. XXXIV. fig. 24.)

Oblong ovate, subdepressed, black, the basal joints of the antennæ, the thorax, and the tibiæ fulvous; elytra obscure bluish-black, opaque, impunctate.

Length 2 lines.

Head rather narrowly elongate, impunctate, opaque, the vertex finely granulate; the clypeus with a strongly raised, acute, central ridge; palpi piceous; antennæ half the length of the body, black, the basal three joints fulvous, the third joint twice as long as the second; thorax about one half broader than long, the sides and the posterior margin rounded, the surface obsoletely depressed on each side, flavous, opaque, finely granulate and impunctate; elytra rather flattened, very dark bluish-black, extremely finely granulate and opaque; femora piceous at the base, their apices and the tibiæ fulvous, the tarsi obscure fuscous.

Hab. Mexico, Yolos (*Sallé*).

This species is distinguished by its entirely opaque and impunctate upper surface.

14. **Monolepta abdominalis.**

Black, the basal joints of the antennæ, the thorax, legs, and abdomen fulvous; elytra dark blue, closely and distinctly punctured.

Length 2 lines.

Of rather elongate and narrow shape; the head bluish-black at the vertex, very finely and rather remotely punctured; the frontal tubercles strongly raised, broadly trigonate, and nearly contiguous, scarcely divided by the apex of the clypeus; the labrum, palpi, and mandibles fulvous; antennæ half the length of the body, the six or seven lower joints fulvous, the others fuscous and each stained with fulvous at the base, the third joint slightly longer and rather more slender than the second, the apical joints somewhat thickened; thorax twice as broad as long, the sides slightly rounded at the middle only, the surface minutely punctured, fulvous, with a broad but shallow depression on each side; scutellum black; elytra dark metallic blue, very closely and distinctly punctured, the punctuation here and there arranged in closely approached rows of larger and smaller impressions, the shoulders rounded; the breast and the apex of the last ventral segment black, the rest of the underside and the legs fulvous; the posterior tibiæ with the usual spine; the first joint of the posterior tarsi longer than the following three joints together.

Hab. MEXICO, Ciudad in Durango (*Höge*). A single specimen.

15. **Monolepta brunnea.**

Testaceous; head piceous; antennæ fulvous, the sixth to the eighth joints black; thorax obsoletely impressed, obscure piceous; elytra chestnut-brown, finely punctured, the base distinctly raised.

Length $1\frac{1}{4}$ line.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

M. brunnea is separated from the other small species of the genus by the elytra being distinctly raised at the base and dark brown in colour, in connection with the colour of the antennæ and that of the head and thorax. The second and third joints of the antennæ are short and equal; the thorax is more or less stained with piceous; and the elytra, which are finely and closely punctured, have a transverse depression below the raised basal portion, the depression being slightly darker than the rest of the surface.

16. **Monolepta championi.**

Reddish-fulvous; antennæ pale fulvous, the sixth, seventh, and the apical two joints black; thorax minutely punctured; elytra punctured like the thorax, reddish-fulvous, the base more or less piceous; legs testaceous.

Length $1\frac{1}{2}$ line.

Head not visibly punctured, deeply transversely grooved between the eyes, the latter very large; clypeus somewhat strongly raised in the middle; palpi piceous; antennæ half the length of the body, the third joint scarcely longer than the second; thorax more than twice as broad as long, minutely granulate and punctured; elytra convex, punctured like the thorax; the first joint of the posterior tarsi as long as half the tibiæ.

Hab. PANAMA, Bugaba, Volcan de Chiriqui (*Champion*).

Two specimens. *M. championi* agrees in general shape and colour with *M. brunnea* and *M. triplagiata*; but differs from the first in the elytra not being raised at the base, and from both in the colour of the antennæ and in the unicolorous elytra.

17. **Monolepta hondurensis.**

Testaceous, the antennæ and tibiæ more or less fuscous; head and thorax minutely granulate and punctured,

the lateral margin of the latter piceous; elytra closely and finely punctured, the interstices still more finely punctate and slightly wrinkled, the extreme lateral margin piceous.

Length 2 lines.

Hab. HONDURAS (*Sallé*).

This insect is closely allied to *M. imitans* and *M. subrugosa*, but it seems to differ from both in several particulars. *M. hondurensis* is larger and of more elongate shape; the head is finely granulate and punctured (when seen under a strong lens); the clypeus has a very distinct central raised ridge, extending upwards between the antennæ (in *M. subrugosa* the clypeus is much more flattened and almost united with the frontal tubercles); the antennæ extend to about half the length of the body, the first three joints are testaceous and the rest fuscous; the thorax is more transverse than in the two allied species, and exceedingly finely punctured (the disc has the usual transverse shallow groove); and the punctuation of the elytra consists of small and still smaller punctures crowded together. Three specimens, agreeing entirely in the above particulars.

18. **Monolepta bipartita.** (Tab. XXXIV. fig. 25.)

Obscure fulvous; antennæ black, the basal and the apical two joints fulvous; thorax extremely finely punctured; elytra scarcely visibly punctate, black, this colour divided by a narrow transverse fulvous band.

Length 1–1½ line.

Head not visibly punctured; the frontal tubercles but slightly raised and nearly contiguous; the clypeus flattened, without any central ridge; palpi piceous; antennæ as long as the body in the male, shorter in the female, the three lower joints testaceous, the apical two joints fulvous, the apex of the terminal one fuscous, the third joint in the male extremely small, smaller than the second, in the female larger; thorax more than twice as broad as long, of usual shape, depressed on each side of the disc, the latter with some fine irregularly distributed punctures, flavous or fulvous; scutellum black; elytra convex, subcylindrical, very finely and closely punctured, black, the fulvous median band narrow, slightly widened at its middle, and nearly extending to the sides; below and the legs testaceous, the tibiæ more or less fuscous.

Hab. PANAMA, Bugaba, Volcan de Chiriqui, David, Caldera (*Champion*).

This small species much resembles in coloration *Luperodes dimidiaticornis*; but may be known, apart from its different generic characters, by the colour of the antennæ, these organs always having the apical two joints fulvous. Many specimens.